GeoVision inc.
The Vision of Security

GV-GIS

User's Manual V3.1.0

GISV310-B

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Naming and Definition

GV-System	GeoVision Analog and Digital Video Recording Software. The GV-System also refers to **Multicam System**, **GV-NVR System** and **GV-Hybrid DVR System** at the same time.

Important Notice

The GV-GIS supports the following Map API (Application Program Interface): Google Maps V2, Google Maps V3, Microsoft Virtual Earth and OpenStreetMap. For some Map API, users may need to purchase the API Premium Key. Since these Map APIs are third-party applications, users are responsible for following their terms and conditions.

Chapter 1 Introduction

The GV-GIS is a GIS (Geographic Information System) based central management system for GeoVision devices.

The vehicle tracking and location verification remotely from the GV-GIS is made possible by the GPS receiver installed in GV-Video Server and GV-Compact DVR to constantly obtain the GPS data (vehicle coordinates and speed) from the satellite, and through mobile internet connection (e.g. UMTS, EDGE, GPRS, GSM, etc) to transmit the GPS data to the GV-GIS.

Besides real-time vehicle tracking, you can also monitor the location of cameras and the status of I/O devices from the DVR devices, without GPS functions.

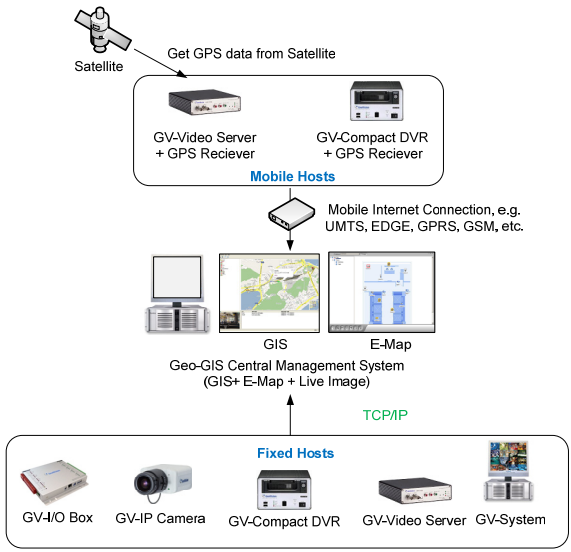


Figure 1-1

Moreover, GV-GIS integrate with GV-System and GV-Recording Server/GV-Video Gateway to receive real-time vehicle tracking from the GV-Video Server and GV-Compact DVR.

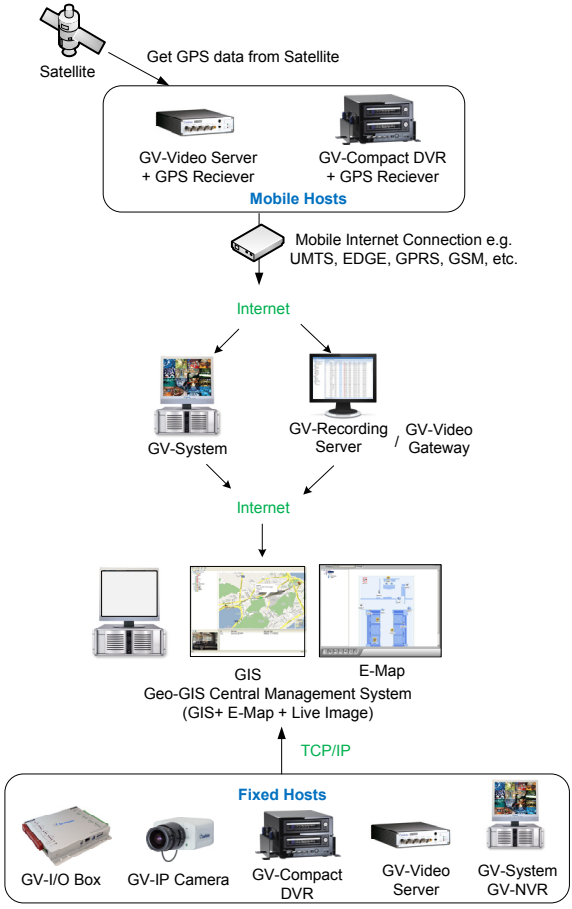


Figure 1-2

1.1 Features

- GIS central management system
- 500 vehicles tracking at one time
- Real-time vehicle GPS coordinates
- Real-time vehicle video image
- Google Maps, Microsoft Virtual Earth, OpenStreetMap and user-defined maps support
- GPS Tracks playback
- Detour Detection
- Idle Speed Detection
- Over Speed Detection
- E-Map Support
- Motion and Input-triggered alert for fixed hosts
- Customized landmark (interested points) setting
- Integration with GV-I/O Box, GV-Video Server, GV-Compact DVR, GV-IP Camera, GV-System and GV-Recording Server/GV-Video Gateway
- GIS Web Interface for remote monitoring and tracking

1.2 System Requirements

1. The minimum system requirements to run the GV-GIS:

Standard Version

		10 Mobile-Host Map Views	10 Mobile-Host Map Views with up to 10 Megapixel Live Views
OS	**32-bit**	Windows XP / Vista / 7 / Server 2008	
	64-bit	Windows 7 / Server 2008	
CPU		Pentium 4, 3.0 GHz with HT	Core 2 Quad 8300, 2.5 GHz
Memory		2 x 512 MB Dual Channels	2 x 1 GB Dual Channels
Hard Disk		The hard disk space required to install GV-GIS (Standard Version) must be at least 1 GB.	
Graphic Card		AGP or PCI-Express, 800 x 600 (1280 x 1024 recommended), 32-bit color	
DirectX		9.0c	
Browser		Internet Explorer 7.x	
Software		.Net Framework 3.5	
Hardware		Internal or External GV-GIS Dongle	
Note: The .Net Framework can be found in the Software DVD.			

Advanced Version (Up to 500 Mobile Hosts)

		16 Mobile-Host Map Views	16 Mobile-Host Map Views with up to 16 Megapixel Live Views
OS	**32-bit**	Windows XP / Vista / 7 / Server 2008	
	64-bit	Windows 7 / Server 2008	
CPU		Pentium 4, 3.0 GHz with HT	Core i5-750, 2.67 GHZ
Memory		2 x 1 GB Dual Channels	
Hard Disk		The hard disk space required to install GV-GIS (Advanced Version) must be at least 1 GB.	
Graphic Card		AGP or PCI-Express, 800 x 600 (1280 x 1024 recommended), 32-bit color	
DirectX		9.0c	
Browser		Internet Explorer 7.x	
Software		.Net Framework 3.5	
Hardware		External or Internal GV-GIS Dongle	
Note: The .Net Framework can be found in the Software DVD.			

Note: The minimum system requirements are collected by using the GV-IPCam 1.3M for test, and may vary based on connected IP device models.

Dongle Options

Combinations	GIS
	GIS + AVP
	GIS + VSM
	GIS + VSM + AVP

2. A GV-GIS dongle is required for the GV-GIS software to work.

   - **The primary USB dongle provides the options of 1, 3, 5, and 10 vehicle connections. After first 10 vehicle connections, every increment is 5 connections with the limit of 500 connections in total.**

     Inform your sales representative the required number of vehicle connections so the dongle can be delivered upon your requirements. Otherwise, you can upgrade your primary dongle later by following the instructions in *Upgrading the GV-GIS Dongle,* Appendix B.

   - The GV-GIS dongles come in two options, External USB Dongle and Internal USB Dongle.

Note: For the Defog and Stabilizer functions on Live View, the GV-GIS dongle with AVP function is required.

1.3 Overview of GV-GIS

Get yourself familiar with the Main Screen, Toolbar and Event List, as it will help you when you read further in the following sections.

1.3.1 Supported Map API

GV-GIS integrates the below Map Application Program Interfaces (API). You could switch to different Map API while using GV-GIS.

- Google Maps V2
- Google Maps V3
- Microsoft Virtual Earth
- OpenStreetMap

1.3.2 Main Screen

Microsoft Virtual Earth is used as Map API (Application Program Interface) in this example.

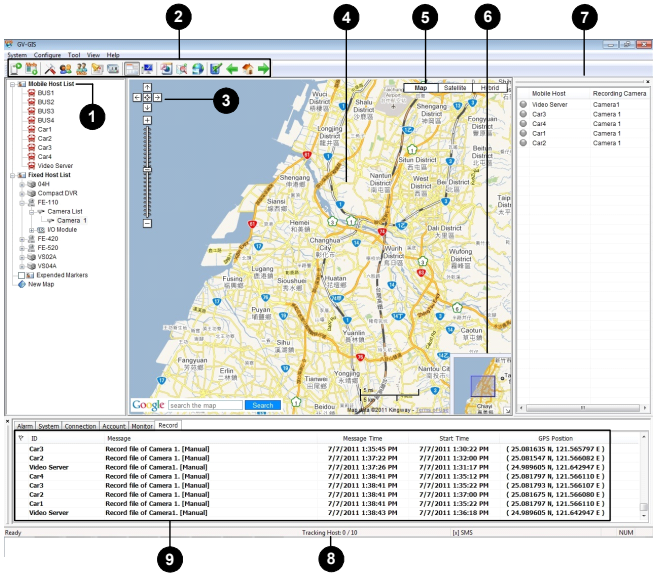


Figure 1-3

No.	Name	Description
1	Host List	Include these types of folders: Mobile Host List, Fixed Host List, Expended Markers, and New Map.
2	Toolbar	See *1.3.2 ToolBar*.
3	Navigation Controls	Use these to pan, return to the last result, and zoom.
4	Map	This area displays the tracking map, E-Map and query results.
5	Views	Click these to display different views, including aerial images and street level imagery.
6	Overview Map	This view shows the location of current map view.
7	Manual Record List	Displays the manual recording status of Mobile Hosts and the cameras. To display **Monitor List** or **Map Event list**, click **View** on the GIS window and select from the menu. For details, see *5.3 Detecting Motion and Input-triggered Events* and *3.10 Viewing a List of Detection Settings* respectively.
8	Tracking Host Indicator	Indicate the connected mobile hosts. Take the picture for example. Three (3) mobile hosts are connecting to the GV-GIS while GV-GIS supports the maximum of 50 mobile hosts.
9	Event List	See *Event List* later.

1.3.3 Toolbar

Figure 1-4

No.	Name	Description
1	Start/Stop Service	Start or stop the GV-GIS services.
2	Start/Stop Web Service	Enable or disable the access to GV-GIS's Web interface.
3	System Configuration	Configure the system. See *Chapter 8 System Configurations.*
4	Account	Configure host accounts. See *2.2 Creating Host Accounts*.
5	Web Account	Configure user accounts for accessing GV-GIS's Web interface. See *Chapter 14 Remote Viewing Using a Web Browser.*
6	Notification Setting	Configure which event to send notifications when it happens. See *Chapter 9 Notification Settings.*
7	Local I/O Device Control	Open the list of available I/O devices on your system.
8	Event List	Open or close the Event List on the main screen.
9	Monitor List	Open or close the Monitor List on the main screen. See *5.3 Detecting Motion and Input-triggered Events.*
10	Event Log Browser	Search for log events. See *Chapter 7 Event Log Browser*.
11	Range Query	Search for places and devices. See *3.11 Searching for Places and Devices*.
12	Track List	Track addresses of multiple mobile hosts in real time. See *3.6 Tracking Multiple Hosts.*
13	Map Setting	Configure the settings for E-Map icons. See *6.1 Creating an E-Map.*
14	Up One Level Map	Display the previous map.
15	Map Home	Display the tracking map.
16	Down One Level Map	Display the next map.

1.3.4 Event List

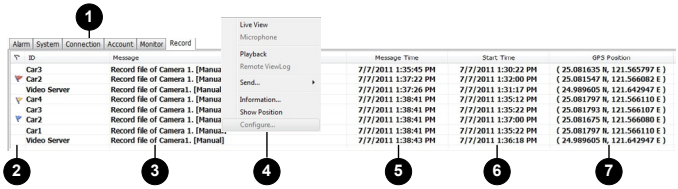

1
Alarm
System
Connection
Account
Monitor
Record
ID
Message
Message Time
Start Time
GPS Position
Car3 Record file of Camera 1. [Manua 7/7/2011 1:35:45 PM 7/7/2011 1:30:22 PM (25.081635 N, 121.565797 E)
Car2 Record file of Camera 1. [Manua 7/7/2011 1:37:22 PM 7/7/2011 1:32:00 PM (25.081547 N, 121.566082 E)
Video Server Record file of Camera1. [Manual 7/7/2011 1:37:26 PM 7/7/2011 1:31:17 PM (24.989605 N, 121.642947 E)
Car4 Record file of Camera 1. [Manua 7/7/2011 1:38:41 PM 7/7/2011 1:35:12 PM (25.081797 N, 121.566110 E)
Car3 Record file of Camera 1. [Manua 7/7/2011 1:38:41 PM 7/7/2011 1:35:22 PM (25.081793 N, 121.566107 E)
Car2 Record file of Camera 1. [Manua 7/7/2011 1:38:41 PM 7/7/2011 1:37:00 PM (25.081675 N, 121.566080 E)
Car1 Record file of Camera 1. [Manua.. 7/7/2011 1:38:41 PM 7/7/2011 1:35:22 PM (25.081797 N, 121.566110 E)
Video Server Record file of Camera1. [Manual] 7/7/2011 1:38:43 PM 7/7/2011 1:36:18 PM (24.989605 N, 121.642947 E)
Live View
Microphone
Playback
Remote ViewLog
Send...
Information...
Show Position
Configure...
2
3
4
5
6
7

Figure 1-5

No.	Name	Description
1	Event Type	Include these types of events: **Alarm**, **System**, **Connection**, **Account**, **Monitor, and Record**.
2	Flag	Flag an event for later reference.
3	Message	Indicate associated information for each event type.
4	Selection Menu	Right-clicking a message in the Alarm, Connection, Monitor or Record tab allows you to instantly access some useful functions.
5	Message Time	Indicate when the GV-GIS receives an event.
6	Start Time	Indicate when an event happens at the host.
7	GPS Position	Indicates the GPS position of hosts at Start Time.

Chapter 2 Getting Started

2.1 Installing the GV-GIS

Before installing the GV-GIS, you need to install the USB dongle driver and .Net Framework first. Follow the steps below to install those programs.

1. Insert the Software DVD to your computer. This window pops up automatically.

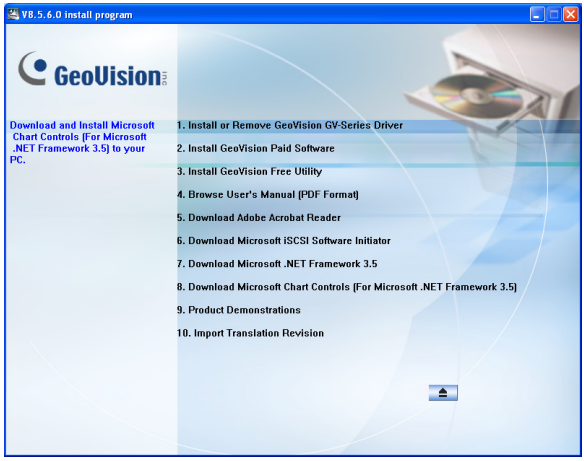

V8.5.6.0 install program
GeoVision
Download and Install Microsoft Chart Controls (For Microsoft .NET Framework 3.5) to your PC.
1. Install or Remove GeoVision GV-Series Driver
2. Install GeoVision Paid Software
3. Install GeoVision Free Utility
4. Browse User's Manual (PDF Format)
5. Download Adobe Acrobat Reader
6. Download Microsoft iSCSI Software Initiator
7. Download Microsoft .NET Framework 3.5
8. Download Microsoft Chart Controls (For Microsoft .NET Framework 3.5)
9. Product Demonstrations
10. Import Translation Revision

Figure 2-1

2. To install USB dongle driver, select **Install or Remove GeoVision GV-Series Driver**, and click **Install GeoVision USB Device Drivers**.
3. To install .NET Framework, select **Download Microsoft .NET Framework 3.5**.

4. To install GV-GIS, Select **Install GeoVision Paid Software** and click **Yes** to accept the License Agreement.
5. Select **GV-GIS** and follow the on-screen instructions.

Figure 2-2

6. The first-time user will be prompted for a License Agreement.

   Note "*The license of API is excluded from GeoVision products and you should apply for the license of the API by yourself in advance*."
   Read through the license terms before you click **I understand and agree** to continue.

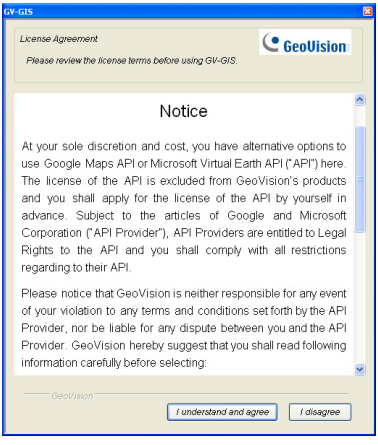

GV-GIS
License Agreement
Please review the license terms before using GV-GIS.
GeoVision
Notice
At your sole discretion and cost, you have alternative options to use Google Maps API or Microsoft Virtual Earth API ("API") here. The license of the API is excluded from GeoVision's products and you shall apply for the license of the API by yourself in advance. Subject to the articles of Google and Microsoft Corporation ("API Provider"), API Providers are entitled to Legal Rights to the API and you shall comply with all restrictions regarding to their API.
Please notice that GeoVision is neither responsible for any event of your violation to any terms and conditions set forth by the API Provider, nor be liable for any dispute between you and the API Provider. GeoVision hereby suggest that you shall read following information carefully before selecting:
GeoVision
I understand and agree
I disagree

Figure 2-3

6. From the “Please Select a Map API” drop-down list, select a Map API (Application Program Interface). For Google Maps V2, you need to sign up for an API key from Google website (http://code.google.com/apis/maps/signup.html), and enter the API key in the Please enter the map authorization key or license key field.

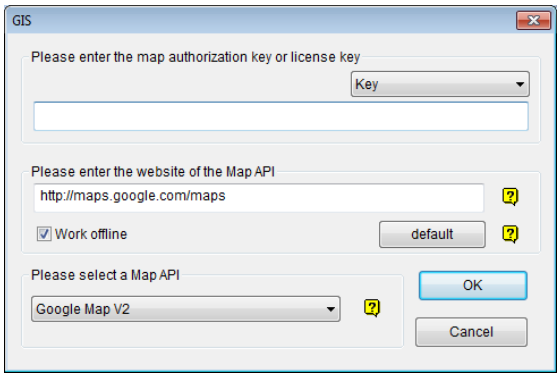


Figure 2-4

7. Click **Submit** to open the main screen.

Note:

1. Some GV-GIS features may not be available to your location depended on Maps API.
2. If you want to use the maps created by yourself, overwrite the files at :\GV-GIS folder\GIShtm-User, and select **User Defined** from the “Please Select a Map API” drop-down list.
3. If you are the paid-client of Google Maps, select **Client** from the “Please enter the map authorization key or license key” drop-down list; otherwise select Key.

2.2 Creating Host Accounts

Create host accounts for the DVR devices you wish to track and manage with the GV-GIS. The GV-GIS supports two types of hosts: **Mobile Host** and **Fixed Host**. Mobile hosts refer to those devices equipped with GPS receivers and installed in vehicles, while fixed hosts refer to those without GPS functions and installed at fixed locations.

2.2.1 Creating a Mobile Host

1. On the toolbar, click the **Account** button (No.3, Figure 1-4). The Account window appears.
2. Click the **Add A Group** button to create a group folder if necessary.
3. Click the **Add A Mobile Host** button to create a host account.
4. Assign **ID** and **Password** for the host to log onto the GV-GIS.
5. Other information of the host such as Name, TEL, Mobile, Address and E-Mail are optional entries.
6. The **Visible Level in Map** option allows you to set the minimal zoom level of the host icon on the map. For example, if you set it to 14, you can only see the host icon on the map when zooming in to the level 14 or above. Setting the level to 0 makes the host icon always visible regardless of zoom level.

After creating host accounts, click the **Start/Stop Service** button (No.1, Figure 1-4) on the toolbar to start the GV-GIS service. Meanwhile, hosts must be configured and connected to the GV-GIS. See *2.3 Connecting Hosts to the GV-GIS* for how hosts can log onto the GV-GIS.

2.2.2 Creating a Fixed Host

1. On the toolbar, click the **Account** button (No.3, Figure 1-4). The Account dialog box appears.
2. Click the **Add A Group** button to create a group folder if necessary.
3. Click the **Add A Fixed Host** button to create a host account.
4. In the dialog box,
   A. Name the host in the **Host ID** field and select a device type from the **Host Type** drop-down list.
   B. In the Connection Information section, type **IP Address**, **Login ID** and **Password** to log onto the host. Use the default communication ports, or modify port values if necessary.
   C. In the Device Information section, click the **Update Information** button to request the number of cameras and I/O modules installed from the host.
   D. If you want to disable the monitoring functions to certain cameras, click the **Camera Monitor Setting** button . For details, see *5.3 Detecting Monitor and Input-Triggered Events*.
   E. For the **Apply the Device's GPS positions** option, see *6.7 Applying Longitude and Latitude Positions on Fixed Hosts*.
   F. Subscriber Information and Note are optional entries.

After creating host accounts, some hosts must be configured and connected to the GV-GIS. See *2.3 Connecting Hosts to the GV-GIS* later for how hosts can log onto the GV-GIS.

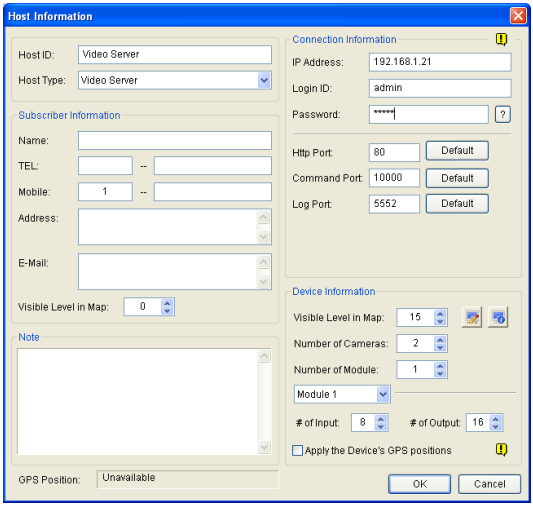


Figure 2-5

Note:

1. The **Visible Level in Map** option in the “Subscriber Information” section is to set the minimal zoom level of the host icon on the map. The same option in the “Device Information” section is to set the minimal zoom level of camera and I/O icons on the map. For details on the option, see step 6 in *2.2.1 Creating a Mobile Host*.
2. The communication ports of DVR (Command Port 3388, Data Port 5611 and Log Port 5552) should match Control Center ports on that DVR.

2.3 Connecting Hosts to the GV-GIS

You need to configure hosts in order to access the GV-GIS service remotely through a network connection.

2.3.1 Connecting a Mobile Host

To perform the GPS tracking remotely from the GV-GIS, first make sure a GPS receiver is connected to the mobile host and its GPS function is activated. Then, the mobile internet connection (e.g. UMTS) on the host must be activated so that the GV-GIS can access the GPS data through the connectivity.

2.3.1.1 Connect GV-Video Server or GV-Compact DVR

You need to configure GV-Video Server or GV-Compact DVR to remotely connect the GV-GIS.

1. Open the configuration interface of the GV-Video Server or GV-Compact DVR, and select **GV-GIS**.

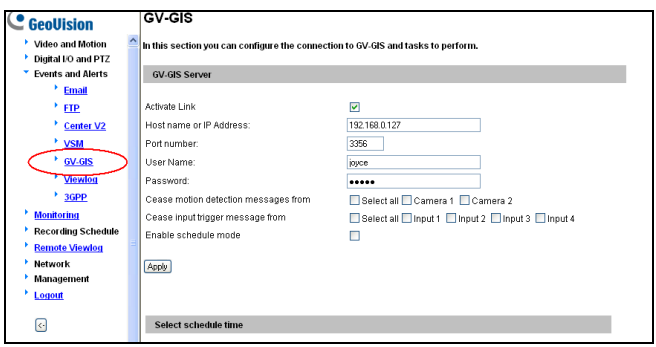


Figure 2-6

2. Select **Activate Link**.

3. Type IP address or domain name of the GV-GIS.
4. Keep **Port number** as default, or change it if necessary.
5. Type **User Name** and **Password** used to log onto the GV-GIS. These entries must match ID and Password created on the GV-GIS. See *2.2 Creating Host Accounts* in this chapter.
6. Click **Apply** to start connection. Make sure UMTS function is also enabled for mobile internet connection.

When the connection is established between the mobile host and GV-GIS, a message "*Status: Connected. Connected Time: xxx*" will be displayed at the bottom of the configuration page.

2.3.1.2 Connect GV-System

You can create a mobile host for GV-System on GV-GIS to track the locations of GV-System, and for GV-Video Server and GV-Compact DVR connected to GV-System. For the settings on the GV-System, see *GPS Settings on GV-System*, Appendix D.

2.3.1.3 Connect GV-Recording Server/GV-Video Gateway

You can create a mobile host for GV-Recording Server/GV-Video Gateway on GV-GIS to track the locations of GV-Recording Server/GV-Video Gateway, and for GV-Video Server and GV-Compact DVR connected to GV-Recording Server/GV-Video Gateway. For the settings on the GV-Recording Server/GV-Video Gateway, see the *GIS* section in the *GV-Recording Server User's Manual*.

Note: GV-GIS connection is supported by GV-Recording Server V1.2.0.0 or later.

2.3.2 Connecting a Fixed Host

- **GV-System (GV-NVR):** To establish the connection, activate the **Control Center Service**.
- **GV-Video Server, GV-Compact DVR, GV-IP Camera, GV-IP Speed Dome:** It is not required to set up these fixed IP devices for connection.

2.4 Advanced Settings for Mobile Host

2.4.1 Configuring the Subscribing Settings

To enable the live view or Remote ViewLog function of a mobile host on the GV-GIS system or on the Web interface, you are required to enter the username and password. To enable these functions without entering the username and the password, configure the subscriber settings as below:

1. Click the **Account** button (No.4, Figure 1-4), select the mobile host and click the **Mobile Host Setting** icon. The dialog box appears.

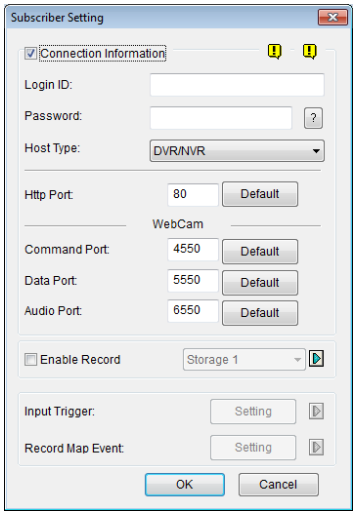


Figure 2-7

2. Select **Connection Information**, type the Login ID and Password of the mobile host and select **Host Type** using the drop-down list. Modify the port information if necessary.
3. Click **OK**.

Chapter 3 Tracking Operations for Mobile Hosts

You can track locations of mobile hosts in real time.

3.1 Starting the Tracking Services

After the GV-GIS service is started, the established hosts appear automatically on the map. Since the host is GPS-enabled, the host icon will automatically move to its correct location on the map.

3.2 Tracking Features

On the map or the Mobile Host List, right-click the mobile host icon to have these tracking features:

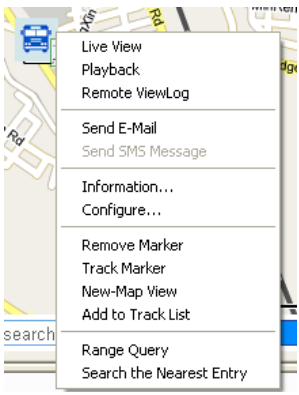
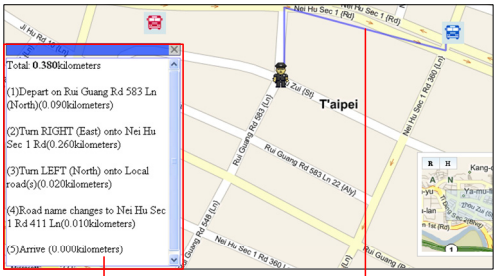


Figure 3-1

Feature	Description
Live View	Display live view. See *3.3 Viewing Live Video*.
Playback	Play back the GPS tracks recorded at the mobile host. *See 3.4 Playing Back GPS Tracks.*
Remote ViewLog	Play back the videos recorded at the mobile host. See *3.5 Remote ViewLog*
Send E-mail	Send an e-mail notification. See *Chapter 12 E-Mail Alerts.*
Send SMS Message	Send a SMS notification. See *Chapter 11 SMS Alerts.*
Information	Display the host information.
Configure	Link to the configuration interface of the mobile host, such as GV-Video Server and GV-Compact DVR.
Remove Marker	Remove the host icon from the map.
Track Marker	Always keep the host icon staying at the center of the map when the vehicle moves. A yellow block similar to the following figure will be displayed on the map. Clicking the yellow block will stop the host tracking.
New-Map View	Track the host in a separate window. See *3.6 Tracking Multiple Hosts.*
Add to Track List	Create a Track List to track multiple hosts. See *3.6 Tracking Multiple Hosts.*.
Range Query	Search for places and devices. See *3.11 Searching for Places and Devices.*

Search the Nearest Entry	Allow you to search for a desired host or marker. The GV-GIS will display a route and provide step-by-step directions from the host to that target. Note that depending on Maps API, this feature may not be available for your location.


Total: 0.380kilometers
(1)Depart on Rui Guang Rd 583 Ln (North)(0.090kilometers)
(2)Turn RIGHT (East) onto Nei Hu Sec 1 Rd(0.260kilometers)
(3)Turn LEFT (North) onto Local road(s)(0.020kilometers)
(4)Road name changes to Nei Hu Sec 1 Rd 411 Ln(0.010kilometers)
(5)Arrive (0.000kilometers)
T'aipei
Nei Hu Sec 1 Rd (Rd)
Rui Guang Rd 583 Ln 22 (Alley)
Nei Hu Sec 1 Rd 360 (Ln)

The window provides the estimated distance and step-by-step directions.

The blue line provides the possible route from the selected host to the target.

3.3 Viewing Live Video

To view live video, right-click one host or camera icon and select **Live View**. Two options appear: **Basic** and **Advanced**.

Basic

Figure 3-2

The controls on the Live View window:

No.	Name	Description
1	Screen Division	Sets the screen division to 1 / 4 / 9 / 16 view(s).
2	Split Mode	■ **Expanded by Image Rate:** Proportionally resizes the images. ■ **Full Window:** Extends live view to fill the live view window.

Advanced

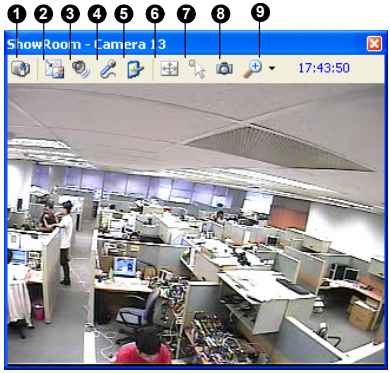


Figure 3-3

The controls on the Live View window:

No.	Name	Description
1	Change Camera	Switches to another camera of the same host.
2	Change Size	■ **Size:** Changes the size of the live video. The size corresponds to the video resolution set at the host. ■ **Defog:** Enhances image visibility. ■ **Stabilizer:** Stabilizes live images. ■ **PIP View:** Refers to Picture and Picture. You can zoom in on the video. ■ **PAP View:** Refers to Picture and Picture. You can create a split video effect with multiple close-up views on the video.
3	Audio	Accesses audio from the host.
4	Microphone	Enables speaking to the host. A microphone must be installed properly in the computer.
5	Setting	Changes the audio and video settings. Defog settings are for adjusting the image color

		(Normalization) and for decreasing the fogginess of the image (Sampling Range).
6	PTZ	Activates the PTZ control.
7	Visual Automation	Allows you to change the current state of an electronic device, e.g. light ON, by clicking on its image directly. The function is only available when the same function is set at the host.
8	Snapshot	Takes the snapshot of the displayed live video.
9	Zoom	Enlarges the video by selecting 1.0x, 2.0x and 3.0x.

Note: The options below are only available when the GV-GIS dongle with AVP function is used:

Defog and **Stabilizer** options in the Change Size button; **Defog** settings in the Setting button.

3.3.1 Colorful Mode

You can enhance the coloring of live video to have more vivid and saturated images. Click the **Configure** button from the menu bar, select **DirectDraw Configuration**, select **Use Colorful Mode**, and restart the GV-GIS program for the mode to take effect.

3.4 Playing Back GPS Tracks

You can play back the GPS tracks recorded on the computer running the GV-GIS.

1. Right-click a mobile host and select **Playback**. You can also right-click an **Alarm** event on the Event List. This dialog box appears.

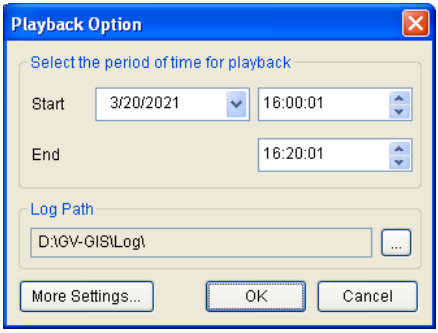


Figure 3-4

2. Specify the date and a period of time of the recorded tracks. Keep the default log path **C:\GV-GIS\Log**, or modify it if necessary. Then click **OK**. The Playback window appears.

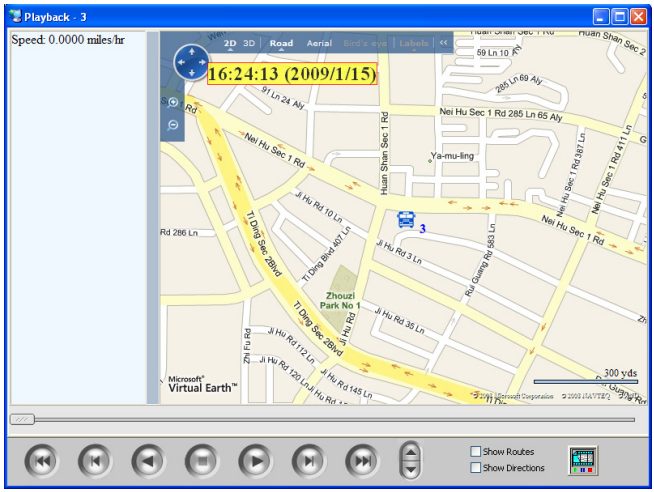

Playback - 3
Speed: 0.0000 miles/hr
16:24:13 (2009/1/15)
Nei Hu Sec 1 Rd
Nei Hu Sec 1 Rd 285 Ln 65 Aly
Huan Shan Sec 1 Rd
Ya-mu-ling
Ji Hu Rd 10 Ln
Ji Hu Rd 3 Ln
Ji Hu Rd 36 Ln
Ji Hu Rd 112 Ln
Ji Hu Rd 120 Ln
Ji Hu Rd 148 Ln
Ti Ding Sec 2Blvd
Ti Ding Blvd 407 Ln
Rd 286 Ln
Zhouzi Park No 1
Zhi Fu Rd
Rui Guang Rd 553 Ln
Nei Hu Sec 1 Rd 387 Ln
Nei Hu Sec 1 Rd 411 Ln
300 yds
Microsoft Virtual Earth™
Show Routes
Show Directions

Figure 3-5

3. Click the **Play** button to start.
4. Select **Show Routes** if you want each GPS track to be drawn as a solid line. Select **Show Directions** to display a direction icon for every GPS track in the map.
5. Select the **Instant Playback** button if you want to retrieve recorded video from the mobile host. A valid ID, Password, IP address and Port number are required to log on to the host.

Note: For Instant Playback, the mobile host needs to grant the remote access from the GV-GIS by activating the **Remote ViewLog** function on itself. For detailed playback operations, see *5.4.1 Instant Playback*.

3.4.1 Setting Playback Default Time Range

Setting the default time range for playback can save time for GV-GIS operators if they always play back the same time length of GPS tracks.

1. Click the **More Settings** button on the Playback Option dialog box (Figure 3-4). This dialog box appears.

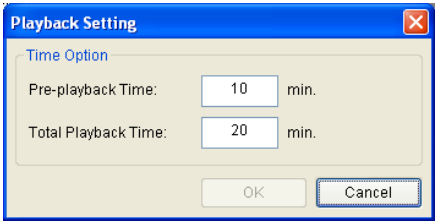


Figure 3-6

2. Set **Pre-playback Time** to define the default number of minutes prior to the Message Time when the selected **Alarm** event was triggered. This setting effects the Start time in the Playback Option (Figure 3-4).
3. Set **Total Playback Time** to define the default total length that the playback will play. This setting affects the End time in the Playback Option (Figure 3-4).
4. Click **OK**.

For example, if Pre-playback Time is set to 10 minutes and Total Playback Time is set to 30 minutes. When the message time of a selected Alarm event is at 11:30:00, the Start time will begin at 11:20:00 and End time will finish at 11:50:00.

Note: When the Playback is accessed by right-clicking a mobile host icon, the Start and End time are based on your current computer time instead of the message time of an Alarm event.

3.4.2 Showing the Time when a Host Passed by a Point

You can obtain the exact time when a host passed by a point. To do this, select **Show Rout**, click a point along the route and select **Show the time when the host passed by here**. A small window will appear showing the time when the host passed by the point on the map.

3.4.3 Showing GPS Tracks while Retrieving the Recordings

You can also view GPS tracks while playing recorded video from a mobile host. Click the **Instant Playback** button (Figure 3-5) to retrieve the recordings, right-click on the Single Player window, select **Render** and select **Display GPS** to display the GPS tracks with the recordings.

3.5 Remote ViewLog

You can play back videos recorded at the mobile host using Remote ViewLog. For details on the configuration, see *5.4.2 Remote ViewLog* later in this manual.

3.6 Tracking Multiple Hosts

The GV-GIS can track locations of multiple mobile hosts on the graphical map and provide a list of street addresses in real time.

3.6.1 Tracking Locations

You can track the locations of up to 16 mobile hosts simultaneously in separate windows or a single window.

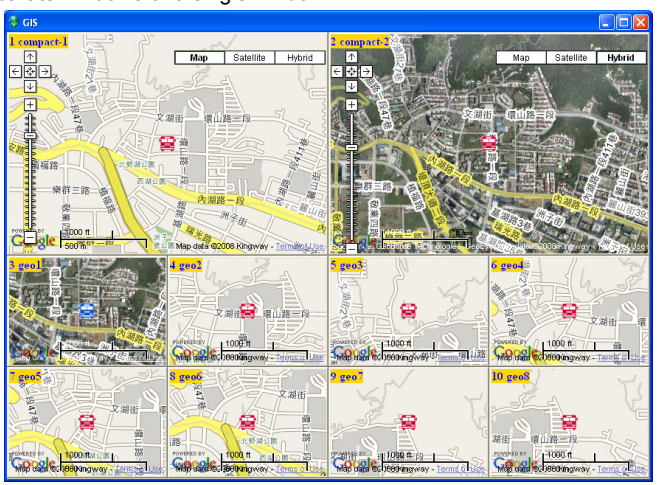


Figure 3-7 *A single window*

1. On the map or the Mobile Host List, right-click the desired mobile hosts, and select **New-Map View** to start tracking.
2. By default, the tracked hosts are displayed in separate windows. To display all of them on a single window, click the **System Configuration** button (No. 3, Figure 1-4) on the toolbar and change **Multi-Map Style** from Multiple Windows Mode to Single Window Mode.

3. Right-clicking on the displayed window brings up the options of changing map type, zooming in, zooming out, or setting the host as the tracking target on the main screen (the **Exchanged with main screen** option).

Tip: The Lock icon can keep the tracking window always on the top of other windows.

3.6.2 Tracking Addresses

You can track street addresses of multiple mobile hosts in real time.

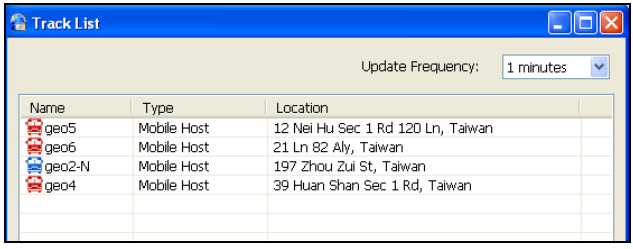


Figure 3-8

1. On the map or the Mobile Host List, right-click a group or a mobile host, and select **Add to Track List**. The Track List appears.
2. To add another group or mobile host, keep the Track List open. Then right-click that group or host, and select **Add to Track List**.
3. Use **Update Frequency** to select how often the GV-GIS will update the GPS data.
4. Minimize or close the Track List. Click the **Track List** button (No 12. Figure 1-4) on the toolbar to restore the Track List anytime.

3.7 Detecting Detours

A detour message will be generated in the Alarm tab of Event List and the icon on the map will blink when the vehicle moves out of the defined area and planned route.

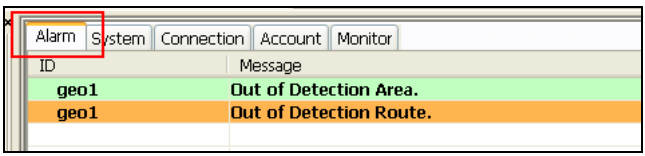


Figure 3-9 *Detour Messages*

To access this function, click the **Account** button (No.4, Figure 1-4), select the mobile host you wish to configure and select **Mobile Host Map Event Setting** icon.

3.7.1 Defining a Detection Area

Up to 50 detection areas can be defined and created.

1. Select **Set Detection Area** on the left panel. This window appears.

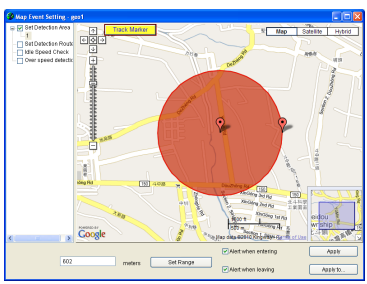


Figure 3-10

2. Right-click on the map and select **Add a detection area**. Two markers appear on the map.
3. To define the detection range, follow one of these ways:
   A. Specify the radius distance from the mobile host in meters or feet. Clicking **Set Range** will display a circular area on the map based on your specification.
   B. Use the markers to move, increase or decrease the detection area.
4. To add another detection area, follow steps 2 and 3.
5. Click **Apply** to apply the settings to the mobile host. Or click **Apply to** to apply the settings to several selected mobile hosts.

When the mobile host moves out of the defined area, the message “Out of Detection Area” will appear in the Event List. When the mobile host moves in the defined area, the message “*Within the Detection Area*” will be displayed.

3.7.2 Planning a Detection Route

1. Select **Set Detection Route** on the left panel. This window appears.

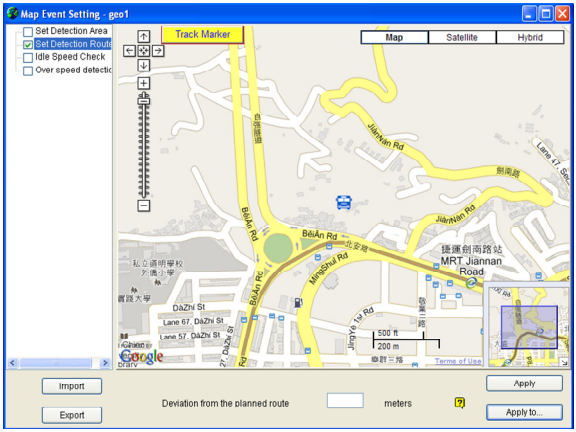


Figure 3-11

2. To plan your route, right-click on the map to set markers. Take the above figure as example. Six markers are set in the planned route.
3. In the **Deviation from the planned route** field, specify the maximum distance in meters or feet that allows the mobile host to deviate from the planned route to any distance.
4. You can click **Export** to save the settings to another location, or **Import** to apply the pre-defined route to the mobile host.
5. Click **Apply** to apply the settings to the mobile host. Or click **Apply to** to apply the settings to several selected mobile hosts.

When the mobile host moves out of the planned route, the message "*Out of Detection Route*" will appear in the Event List. When the mobile host moves in the planned route, the message "*Within the Detection Route*" will be displayed.

3.8 Detecting Idle Speed

An idle speed message will be generated in the Alarm tab of Event List and the icon on the map will blink whenever a vehicle does not cover the required distance in the given time. For example, you set a threshold that a vehicle should cover a distance of 1 km in 5 minutes. When the vehicle only covers 0.75 km in 5 minutes, the alert message will appear.

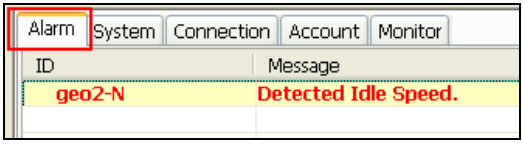


Figure 3-12 *Idle Speed Message*

To access this function, click the **Account** button (No.4, Figure 1-4), select the mobile host you wish to configure and select **Mobile Host Map Event Setting** icon.

1. Select **Idle Speed Check** on the left panel. This window appears.

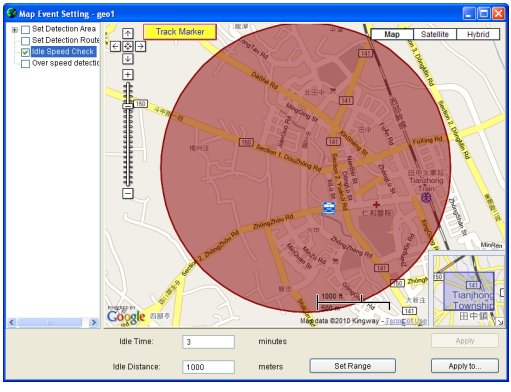


Figure 3-13

2. In **Idle Time**, specify the time threshold.
3. In Idle **Distance**, specify the minimum distance that the mobile host must travel within the specified time.
4. Clicking **Set Range** will display a possible area that the mobile host must travel within the specified time.
5. Click **Apply** to apply the settings to the mobile host. Or click **Apply to** to apply the settings to several selected mobile host.

When the mobile host does not cover the specified distance in the given time, the message “Idle Speed is detected” will appear in the Event List. When the mobile host meets the threshold again, the message “Speed threshold is met” will be displayed.

3.9 Detecting Over Speed

An over-speed message will be generated in the Alarm tab of Event List and the icon on the map will blink whenever a vehicle has exceeded the assigned speed limit. The excessive speed that triggered the event will also be shown, e.g. 8,667000 km/hr, as illustrated below.

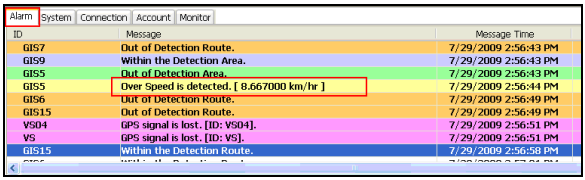

Alarm
System
Connection
Account
Monitor
ID
Message
Message Time
GIS7 Out of Detection Route. 7/29/2009 2:56:43 PM
GIS9 Within the Detection Area. 7/29/2009 2:56:43 PM
GIS5 Out of Detection Area. 7/29/2009 2:56:43 PM
GIS5 Over Speed is detected. [8.667000 km/hr] 7/29/2009 2:56:44 PM
GIS6 Out of Detection Route. 7/29/2009 2:56:49 PM
GIS15 Out of Detection Route. 7/29/2009 2:56:49 PM
VS04 GPS signal is lost. [ID: VS04]. 7/29/2009 2:56:51 PM
VS GPS signal is lost. [ID: VS]. 7/29/2009 2:56:51 PM
GIS15 Within the Detection Route. 7/29/2009 2:56:58 PM

Figure 3-14

To access this function, click the **Account** button (No.4, Figure 1-4), select the mobile host you wish to configure and select **Mobile Host Map Event Setting** icon.

1. Select **Over Speed Detection** on the left panel. This window appears.

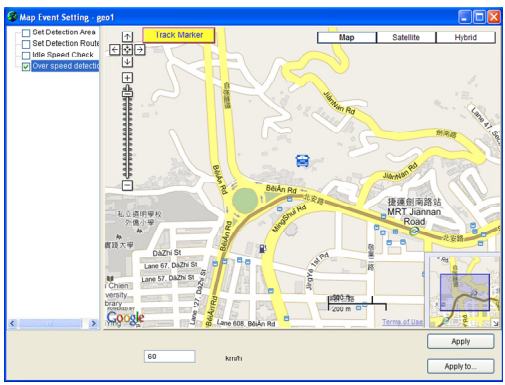


Figure 3-15

2. Set the speed limit at the bottom of the window.
3. Click **Apply** to apply the settings to the mobile host. Or click **Apply to** to apply the settings to several selected mobile hosts.

Whenever the mobile host goes over the speed, the message “ Over Speed is detected” with the average driving speed per four will be shown in the Event List.

3.10 Viewing a List of Detection Settings

You can view a complete list of detection settings configured to the mobile hosts. On the menu bar, click **View** and select **Map Event List**. This dialog box will appear. The symbol “O” indicates the Detection Area, Detection Route, Idle Speed or Over Speed has been configured on the host; otherwise, the symbol “X" will be used.

ID	Area	Route
geo1	O	X
geo2-N	X	O
geo3	O	X
geo4	O	O
geo5	O	O

Figure 3-16

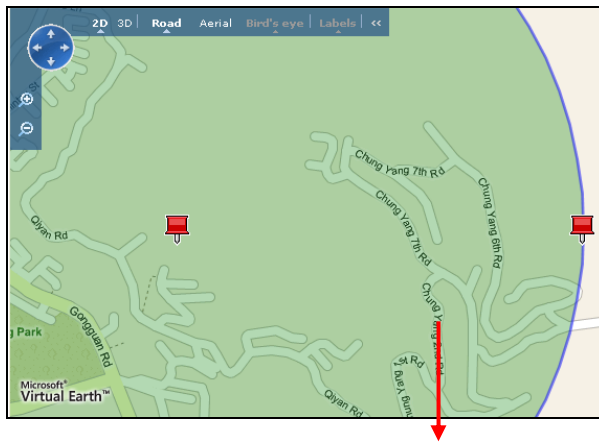
3.11 Searching for Places and Devices

You can search for any devices and places within a defined area.

1. Right-click on the map, and select **Range Query**. The Range Query dialog box appears and a circular search area is displayed on the map too.
2. To define the search area, you have two options.

   Option 1: Directly drag the markers on the search area.

   - Use the marker at the center of the search area to move the circle to the appropriate location. Use the marker at the rim of the search area to increase or decrease the search range.



Circular search area on the Microsoft Virtual

Figure 3-17

Option 2: Customize the settings in the Range Query dialog box.

You can use one of these methods to define the search area:

- Specify the latitude and longitude of the center of the search area, or the address of the center. Click **Move to** to move the circular area to your specified location.

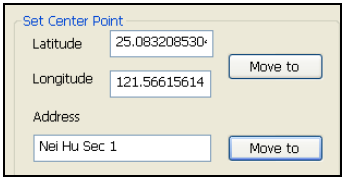


Figure 3-18

Note: To search for an address, use these formats for addresses: "Address, city, state" or "Address, city, ZIP".

- Specify the speed of the vehicle in kilometers or miles per hour and the time in minutes the vehicle might travel. Click **Check Range** to display the range of the search area on the map based on your specification.

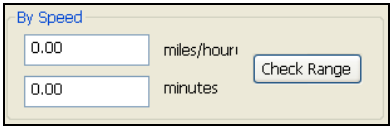


Figure 3-19

- Specify the radius of the search area in meters or feet. Click **Check Range** to display the range of the search area on the map based on your specification.

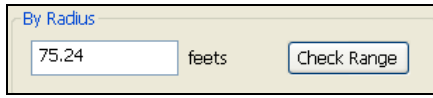


Figure 3-20

3. Select the type of device or place you are looking for.

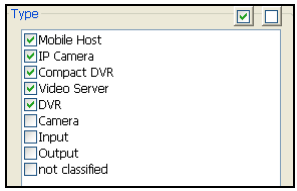


Figure 3-21

4. If you want to know which vehicle has travelled to the defined area during a certain period of time, specify the time period. The maximum time you can specify is one day.

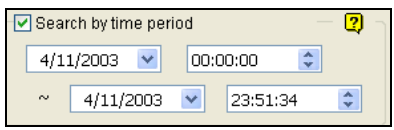


Figure 3-22

5. Click **Query** to display search results.

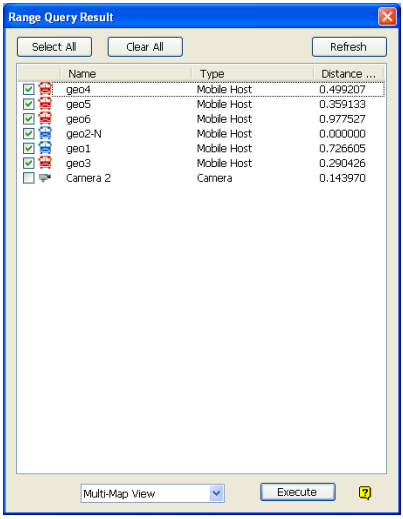


Figure 3-23

6. Double-clicking any found device or place can bring it to the center of the map.
7. If you want to track the found mobile hosts, select those hosts and click **Execute** to start tracking.

Note: The tracked mobile hosts are displayed in separate windows by default. If you want to display all tracked hosts in a single window, change Multi-Map Style in *8.1 Layout Settings*.

Chapter 4 Recording Operations for Mobile Hosts

You can record and play back the videos of Mobile Host on GV-GIS server. You can choose to record by event, upon input trigger and/or manually. You can also modify the storage paths and recording parameters such as duration, mode and recycling conditions to suit your needs.

4.1 Configuring the Basics

4.1.1 Configuring the Storage Group

A Storage Group has been created by default. You can add or delete Storage Groups as required.

1. On the main screen, click **Configure** and select **Record Setting**. This dialog box appears.

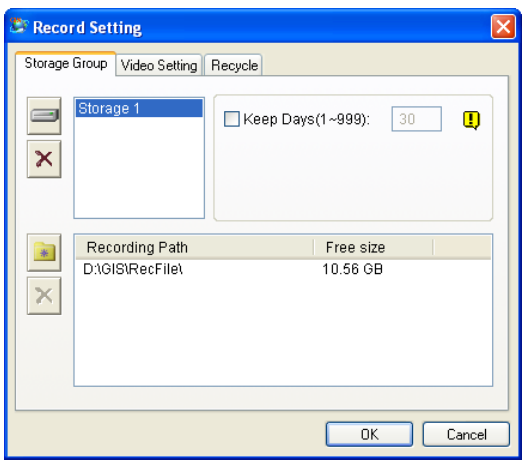


Figure 4-1

- **Storage:** Adds Storage Groups to save video recordings. Storage 1 is established by default. You can create up to 16 Storage Groups, each consisting of different recording paths and Keep Days settings.
- **Record Path:** Specifies the recording locations for the selected Storage Group. Multiple recording paths can be set to a Storage Group. With Multiple recording paths, recordings are automatically saved to the next path of the same Storage when the current path is full.
- **Keep days:** The number of days that the video recordings are saved before being recycled.

2. To add a recording path, select a Storage Group, click the **Add New Path** icon and select a path.
3. To delete a Path, select the Path and click the **Remove Path** icon .
4. To add another Storage Group, click the **Add Storage Group** icon .
5. To delete a Storage Group, select a Storage Group and click the **Remove Storage** icon

4.1.2 Configuring the Video Settings

Define the maximum recording duration, recording time and recording mode. On the Record Setting dialog box, select the **Video Setting** tab. This dialog box appears.

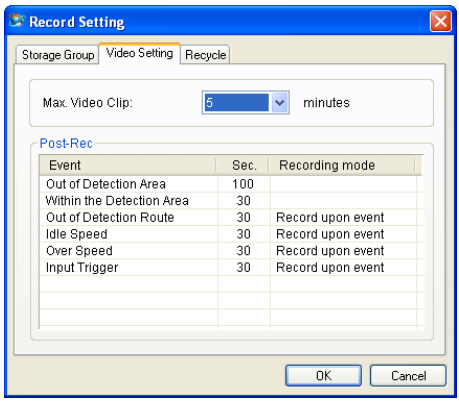


Figure 4-2

- **Max. Video Clip:** Specifies the maximum duration of the recording file.
- **Sec:** Specifies the length (5 ~ 300 seconds) you want to record for each event type. When the length you specify exceeds the **Max. Video Clip** time, the exceeded part will be separated into a second recording file.
- **Recording Mode:** Select **Record upon event** to start recording for the specified time (Sec.) as soon as an event occurs. Select **Continue after event** to start recording as soon as an event occurs, and then continue to record for the specified time (Sec.) after the event stops.

4.1.3 Configuring the Recycle Settings

On the Record Setting dialog box, click the **Recycle** tab. This dialog box appears. Configure the recycle settings as required.

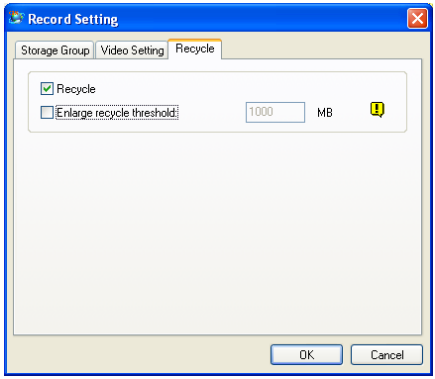


Figure 4-3

- **Recycle:** When all the recording paths of a Storage Group fall short of 1 GB, the oldest 500 MB of stored recordings will be deleted in each recording path. This option is enabled by default. With every addition of recording path, the recycle size (500 MB) increases by 500 MB.
- **Enlarge recycle threshold:** When all recording paths fall short of the recycle threshold (1 GB by default), recycle will start. You can also specify and increase the recycle threshold.

4.2 Recording Manually

If you want to track Mobile Hosts and save live videos for future reference, use this function to start round-the-clock recording. You can record up to 20 cameras simultaneously. Utilize the Storage Group feature to organize your recording files from different Mobile Hosts and the Recording List to keep track of the recording status on your mobile hosts.

1. Set up the storage, recording and recycling settings. See *4.1 Configuring the Basics*.
2. Enable Recording.
   A. On the main screen, click the **Account** button (No.4, Figure 1-4). The Account window appears.
   B. Select the desired Mobile Host and click the **Mobile Host Setting** button . The Subscriber Setting dialog box appears.
   C. Select **Enable Record** and select a Storage Group to store your recording files using the drop-down list.

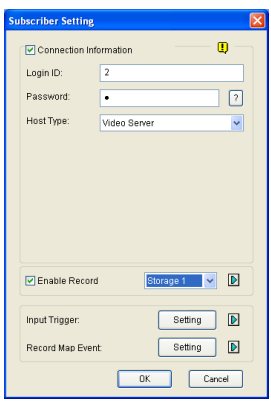


Figure 4-4

3. To start recording manually, right-click the camera from the Host List and select **Record**.

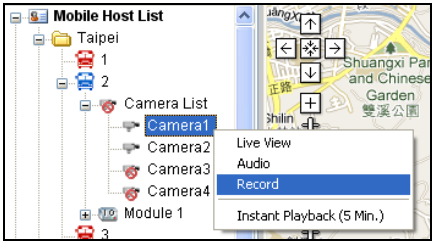


Figure 4-5

4. To stop recording, right-click the camera from the Host List and unselect **Record**.

5. To monitor recording status, click **View** on the main screen and select **Manual Record List**. The Recording List appears on the right side of the main screen.

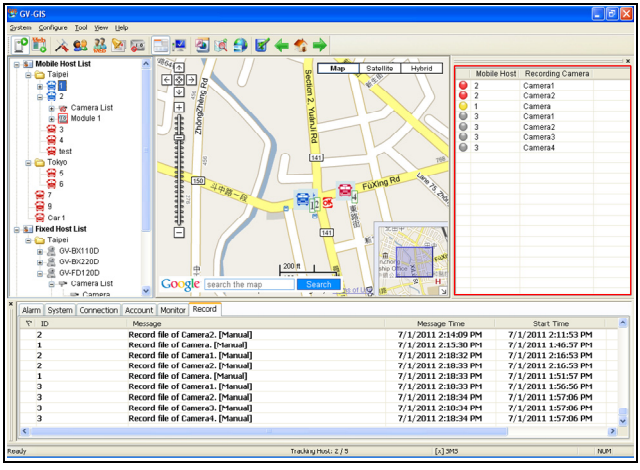


Figure 4-6

From the Recording List, the mobile hosts and the channels enabled for manual recording are listed. The status types are detailed below:

Icon	Recording Status
	The camera is connected and being recorded.
	The camera is connecting to the GV-GIS.
	The camera is currently offline.

4.3 Recording by Events

You can record on Mobile Hosts by events. Follow the steps below to make sure you have configured the required storage, recording and recycling settings and selected the event types and cameras to be recorded.

1. Set up the storage, recording and recycling settings. See *4.1 Configuring the Basics*.
2. Enable recording. See step 2 in *4.2 Recording Manually*.
3. On the main screen, click the **Account** button (No. 4, Figure 1-4). The Account window appears.
4. Select the desired Mobile Host and click the **Mobile Host Setting** button. This dialog box appears.

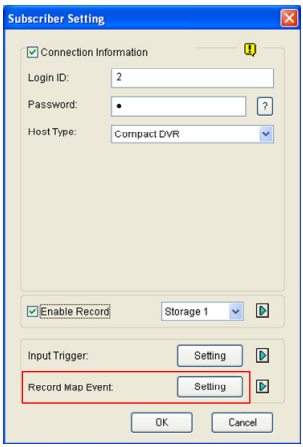


Figure 4-7

5. Click the **Setting** button after Record Map Event. The Record Map Event dialog box appears.

6. Select the events and camera for recording.

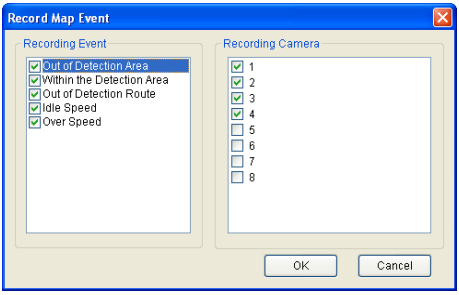


Figure 4-8

7. Click **OK**. The selected cameras of this Mobile Host will be recorded when the selected events occur.

4.4 Recording upon Input Trigger

When an input device is triggered at the mobile host, the GV-GIS system can record and/or pop up live views of the assigned cameras. A maximum of 4 input-triggered live views can be shown simultaneously.

1. Set up the storage, recording and recycling settings. See *4.1 Configuring the Basics*.
2. Enable recording. See step 2 in *4.2 Recording Manually*.
3. On the Subscriber Setting dialog box, click the **Setting** button after Input Trigger. The Input Trigger dialog box appears.

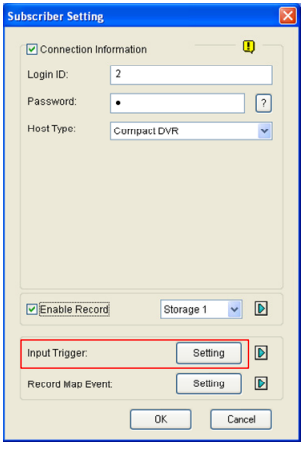


Figure 4-9

4. Define the cameras for live view pop up and/or recording.

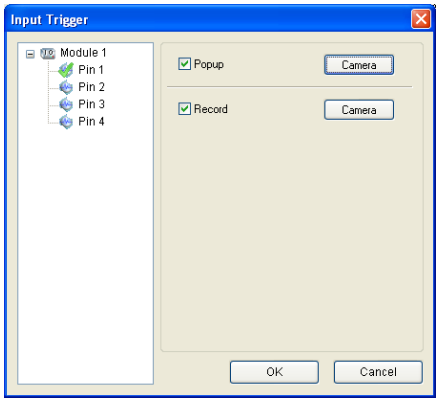


Figure 4-10

A. Select a Pin from the left.

B. To enable pop-up live view upon input trigger, select the **Popup** option. This dialog box appears.

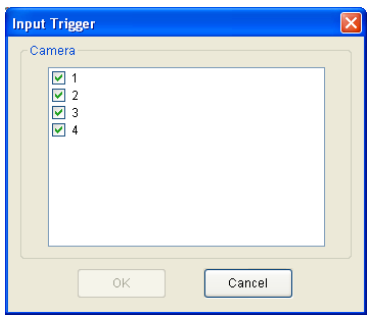


Figure 4-11

C. Select the camera for live views to pop up upon input trigger.

D. To enable recording upon input trigger, select the **Record** option (Figure 4-10) and select the camera.

E. When recording and/or live view pop up is enabled for a Pin, the pin is checked on the Module tree.

4.5 Recording Playback

You can play back recorded videos for Mobile Hosts. By default the recorded files are stored at **\GIS\RecFile**.

1. Right-click the desired mobile host, select **Playback**, and then select **Record Playback**. The Record Playback dialog box appears.

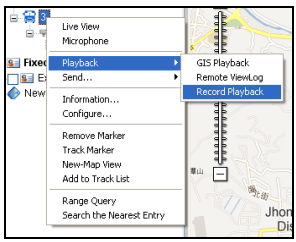


Figure 4-12

2. Specify the **Start** time and **End** time. The maximum time period is **60 minutes**.

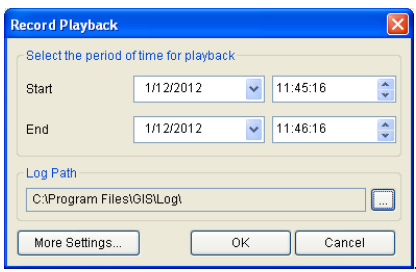


Figure 4-13

Note:

1. By default, the **End** time is the system time and the **Start** time is one minute before the system time. To modify the default **Start** time, click the **More Settings** button (Figure 4-13) and modify the **Pre-playback Time**.

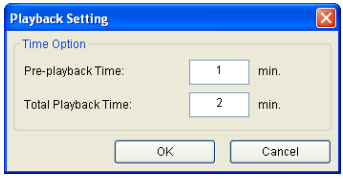


Figure 4-14

2. The **Total Playback Time** is only effective when playing back history events (Figure 1-5).

3. Click **OK**. The matched results of the selected host will be shown.

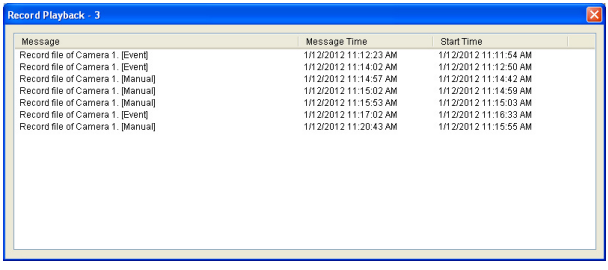

Record Playback - 3
Message
Message Time
Start Time
Record file of Camera 1. [Event] 1/12/2012 11:12:23 AM 1/12/2012 11:11:54 AM
Record file of Camera 1. [Event] 1/12/2012 11:14:02 AM 1/12/2012 11:12:50 AM
Record file of Camera 1. [Manual] 1/12/2012 11:14:57 AM 1/12/2012 11:14:42 AM
Record file of Camera 1. [Manual] 1/12/2012 11:15:02 AM 1/12/2012 11:14:59 AM
Record file of Camera 1. [Manual] 1/12/2012 11:15:53 AM 1/12/2012 11:15:03 AM
Record file of Camera 1. [Event] 1/12/2012 11:17:02 AM 1/12/2012 11:16:33 AM
Record file of Camera 1. [Manual] 1/12/2012 11:20:43 AM 1/12/2012 11:15:55 AM

Figure 4-15

4. Click an entry to play back the recording. For details on the playback window, see *5.4.1 Instant Playback*.

Chapter 5 Monitoring Operations for Fixed Hosts

You can monitor the location of a fixed host without GPS.

5.1 Starting the Monitoring Services

1. Drag the **Fixed Host**, **Camera**, **Input** and **Output** icons to their appropriate positions on either the tracking map or the created E-Map for live monitoring. For details on the E-Map, see *6.1 Creating an E-Map.*
2. You can monitor the fixed host for the alert events of video motion and input trigger. Whenever movement occurs in the images or the input device is triggered, the alert message will be generated in the Event List and the related icons will start blinking on the Host List and map to alert you. See *5.3 Detecting Motion and Input-Triggered Events*.

5.2 Monitoring Features

On the map or the Fixed Host List, right-click the Fixed Host, Camera and Output icons to have these monitoring features:

5.2.1 Fixed Host Icon

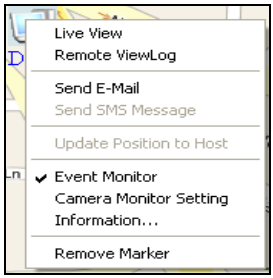


Figure 5-1

Feature	Description
Live View	Display live view. See *3.3 Viewing Live Video*.
Remote ViewLog	Play back video recorded at the fixed host. See *5.4 Retrieving Recorded Video*.
Send E-Mail	Send an e-mail notificaiton. See *Chapter 12 E-Mail Alerts*.
Send SMS Message	Send a SMS notification. See *Chapter 11 SMS Alerts*.
Update Position to Host	Update the fixed host's position to its Web interface. See *6.7 Applying Longitude and Latitude Positions on Fixed Hosts*.

Event Monitor	Activate event monitoring. See *5.3 Detecting Motion and Input-Trigger Events*.
Camera Monitor Setting	Disable the monitoring functions to certain cameras. See *5.3 Detecting Motion and Input-Trigger Events*.
Information	Display the host information.
Remove Marker	Remove the host icon from the map.

5.2.2 Camera Icon

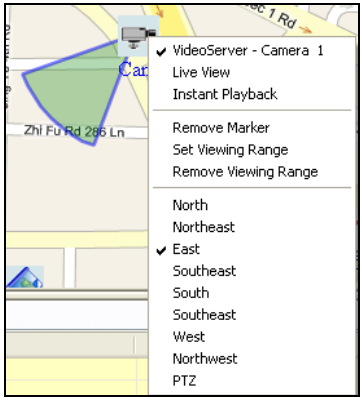


Figure 5-2

Feature	Description
Live View	Display live view. See *3.3 Viewing Live Video*.
Instant Playback	Play back video recorded at the fixed host. See *5.4 Retrieving Recorded Video*.
Remove Marker	Remove the camera icon from the map.
Set Viewing Range	Set the viewing range of the camera.
Direction Options	Set the direction where you want the camera icon to point to, e.g. north, east and etc.
PTZ	Change the camera icon to the PTZ icon.

5.2.3 Output Icon

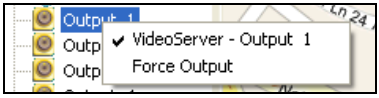


Figure 5-3

Feature	Description
Force Output	Remotely trigger the output device installed at the fixed host. For this function to work, it is required to right-click the I/O host and select **Event Monitor** first.

5.3 Detecting Motion and Input-Triggered Events

An alert message will be generated in the Monitor tab of Event List after video motion is detected and input device is triggered at the fixed host. Meanwhile, the related Camera and Input icons will start blinking to alert the user.

1. Right-click a fixed host to be monitored, and select **Monitor Event**. The fixed host is displayed in the Monitor List. If the List does not appear on the main screen, click the **Monitor List** button (No. 7, Figure 1-4) on the toolbar.
2. If you want to disable the monitoring functions to certain cameras, right-click the fixed host, select **Camera Monitor Setting** and clear the selections of those cameras.

3. In the Monitor List, click on the **Monitor** column. Select **Motion** to generate an alert message whenever movement occurs in the images, select **Trigger** to generate an alert message whenever the input device is triggered, or select **Motion + Trigger** to generate both types of alert messages.

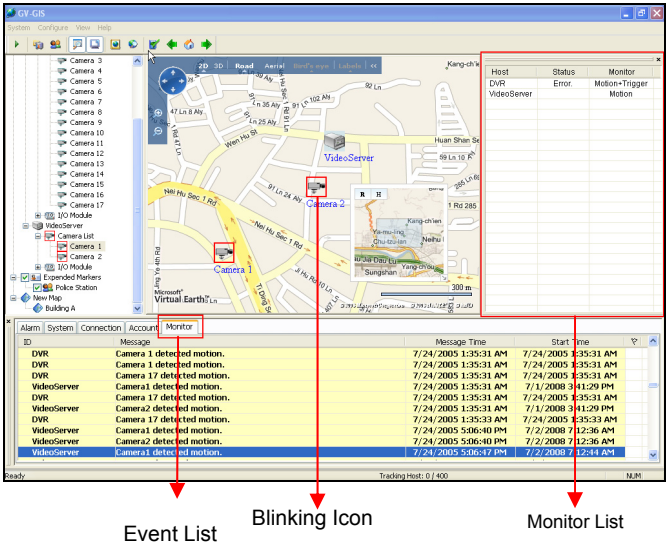


Figure 5-4

5.4 Retrieving Recorded Videos

You can retrieve recorded videos from the fixed host for playback. There are two playback options:

1. **Instant Playback:** Plays back the recorded video of a desired camera up to 5 minutes.
2. **Remote ViewLog:** Plays back the recorded video of a desired fixed host.

Note: GV-IP Camera does not support the playback function.

5.4.1 Instant Playback

Before you can review the video recorded on the fixed host, the following functions must be enabled to allow remote access:

- **DVR:** Enable **Remote ViewLog Service** on Control Center Server and activate recording.
- **Video Server, Compact DVR:** Enable the **Remote ViewLog** function and activate the recording.

To retrieve recorded videos, right-click the Camera icon and select **Instant Playback**. If recorded videos exist, the playback window will be activated and playback will start.

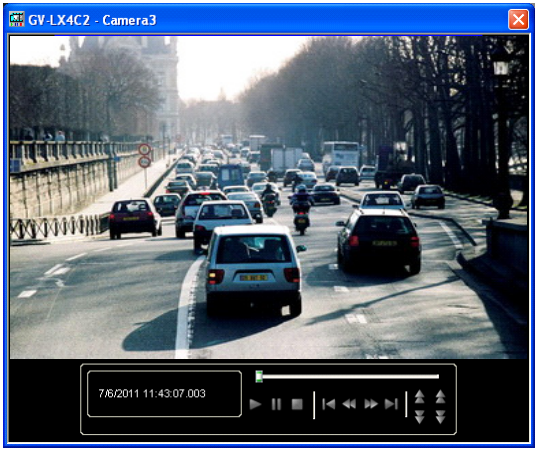
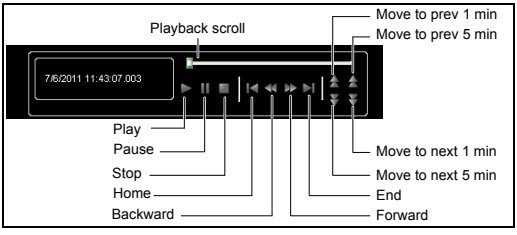

GV-LX4C2 - Camera3
7/6/2011 11:43:07.003

Figure 5-5


Playback scroll
Move to prev 1 min
Move to prev 5 min
7/6/2011 11:43:07.003
Play
Pause
Stop
Home
Backward
Move to next 1 min
Move to next 5 min
End
Forward

Right-click the Playback window to have the following features:

Name	Functions
Play Mode	Includes these options: • **Frame by Frame:** Plays back video frame by frame. • **Real Time:** Plays back video on real time. This mode saves waiting time for rendering, but drop frames to give the appearance of real-time playback. • **Audio:** Turns on or off the video sound. • **Auto play next 5 minutes:** Plays back video up to 5 minutes.
Render	Includes these options: • **Deinterlace:** Converts the interlaced video into non-interlaced video. • **Scaling:** Smoothens mosaic squares when enlarging a playback video, and applies the colorful mode to enhance the coloring. • **Deblocking:** Removes the block-like artifacts from low-quality and highly compressed video. • **Defog:** Enhances image visibility. • **Stabilizer:** Reduces camera shake. • **Text overlay's camera name and time:** Overlays camera name and time onto the video. • **Text overlay's POS/GV-Wiegand:** Overlays POS or GV-Wiegand Capture data onto the video. • **Full Screen:** Switches to the full screen view.
Tools	• **Snapshot:** Saves a video image. • **Save as AVI:** Saves a video as avi format. • **Download:** Downloads the video clip from the DVR or IP video device to the local computer.

Note: The Defog and Stabilizer only work when the functions have been applied on the recording from the DVR.

5.4.2 Remote ViewLog

Before you can review video recorded on the fixed host, the following functions must be enabled to allow remote access:

- **DVR:** Enable **Remote ViewLog Service** on Control Center Server.
- **Video Server, Compact DVR:** Enable the **Remote ViewLog** function.

To use the Remote ViewLog player, it is required to install the Remote ViewLog program from the Software DVD to your GV-GIS computer.

Right-click the fixed host and select **Remote ViewLog**. The Remote ViewLog player will appear. Select the desired camera and video event to start playing. For detailed functions of the player, see *Chapter 4 Video Playback*, *GV-DVR User's Manual* on Software DVD.

If the player does not appear, click **Configure** on the menu bar, select **System Configuration**, click the **Remote ViewLog** tab, and verify the path of the installed Remote ViewLog program. See *8.4 Remote ViewLog Settings*.

Chapter 6 Advanced Operations

6.1 Creating an E-Map

The E-Map allows you to import a floor plan in BMP, GIF and JPG formats, and use the icons of cameras and I/O devices to edit an electronic map according to your requirements. When the cameras and I/O devices are triggered at the host, the related icons will blink to warm you.

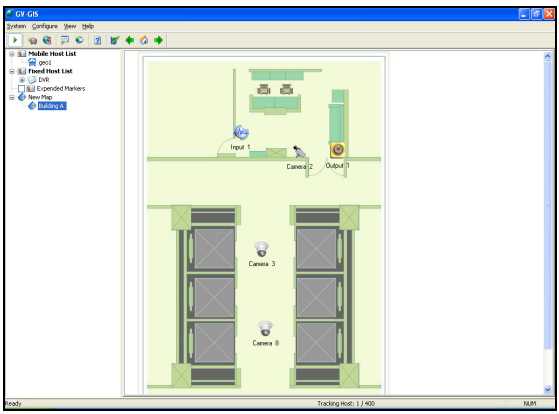


Figure 6-1

1. On the host list, right-click **New Map** and select **Add Map**. A new Map folder is created.
2. Name the map folder, and click it to open.
3. Right-click the created map folder and select **Load Map** to import a graphic file.
4. Drag and drop the icons of cameras and I/O devices from the fixed host onto the map.

5. You can set the direction where you want the camera to point to, and change the camera icon into the PTZ camera icon by right-clicking a camera icon.
6. You can also drag the created E-Map icon from the host list to the correct location on the tracking map.

Note: The icons of cameras and I/O devices are used on either the tracking map or the E-Map.

6.1.1 Configuring E-Map Icon Settings

You can set options for the E-Map icon. Click the **Map Setting** button (No. 11, Figure 1-4) on the toolbar and click the **E-Map Settings** tab. This dialog box appears.

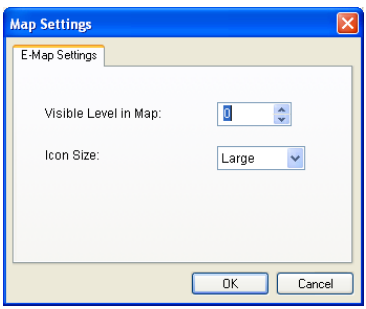


Figure 6-2

- **Visible Level in Map:** Set the minimal zoom level of the E-Map icon on the tracking map. For example, if you set it to 14, you can only see the E-Map icon on the tracking map when zooming in to the level 14 or above. Setting the level to 0 makes the E-Map icon always visible regardless of zoom level.
- **Icon Size:** Set large or small icons on the E-Map.

6.2 Adding a Place

You can add a place marker of business or point of interest to the map.

1. On the host list, right-click **Expended Markers** and select **Add Marker**. This dialog box appears.

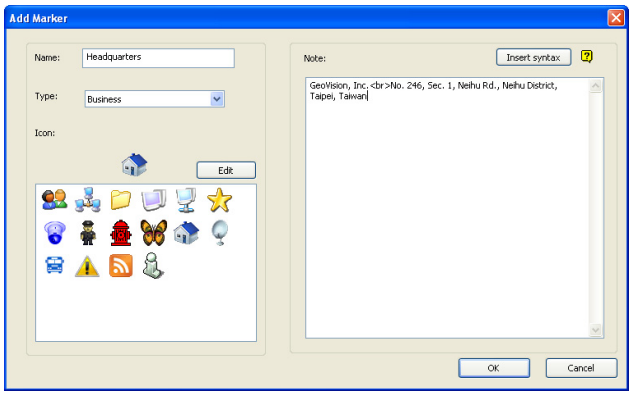


Figure 6-3

2. Name the place marker and select the icon.
3. Optionally, you can select **Type** if available and enter the details in the **Note** field to describe the place.

4. If you want to add a photo to describe the place, click **Insert Syntax** and select **Insert Image**. This dialog box appears. Click **Search** to locate the image path and name the image.

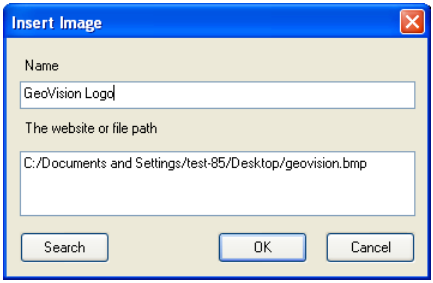


Figure 6-4

5. If you want to add a web link to describe the place, click **Insert Syntax** and select **Hyper Link**. The dialog box similar to Figure 6-35 appears. Name and enter a web address.
6. After above settings, drag the created marker to the correct location on the map.

When you click the marker, you should see the information you added to describe the location.

6.3 Saving a View

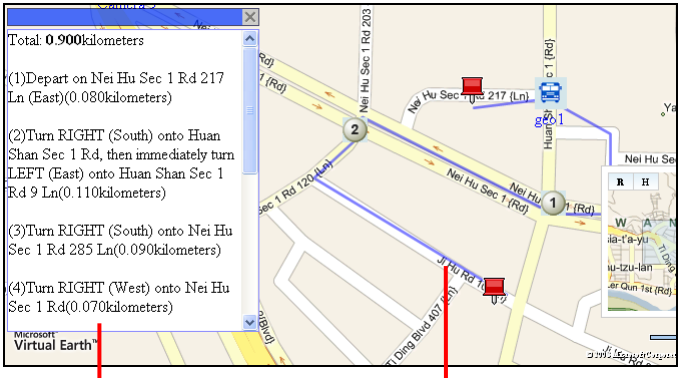
You can save a view of interest by creating a view marker. Every time when you click on the view marker, the map will return to the saved view.

1. Adjust the map to the desired view and zoom level.
2. On the host list, right-click **Expended Markers** and select **Add Map View Region**.
3. Name the view, select one icon, and click **OK**.
4. If you want to change the saved view, adjust the map to the desired view and zoom level, right-click the view marker and select **Update Region**.

6.4 Getting Driving Directions

You can get the step-by-step driving directions. This feature may not be available to your location depended on Maps API.

1. Right-click on the map, and select **From** to set the starting point.
2. Right-click on the map, and select **To** to set the stop where you want to go before reaching to the final destination. You can configure multiple stops.
3. Right-click on the map, and select **Destination** to set the destination. A possible route and step-by-step directions are displayed.


Total: 0.900kilometers
(1)Depart on Nei Hu Sec 1 Rd 217 Ln (East)(0.080kilometers)
(2)Turn RIGHT (South) onto Huan Shan Sec 1 Rd, then immediately turn LEFT (East) onto Huan Shan Sec 1 Rd 9 Ln(0.110kilometers)
(3)Turn RIGHT (South) onto Nei Hu Sec 1 Rd 285 Ln(0.090kilometers)
(4)Turn RIGHT (West) onto Nei Hu Sec 1 Rd(0.070kilometers)
Microsoft Virtual Earth™
Nei Hu Sec 1 Rd 203
Nei Hu Sec 1 Rd 217 (Ln)
Nei Hu Sec 1 Rd
Huan Shan Sec 1 Rd
Nei Hu Se
Jhu Rd
Ti Ding Blvd
2
1

The window provides the estimated distance and step-by-step directions.

The blue line displays your possible route.

Figure 6-5

4. You can send the driving directions to your e-mail account or mobile phone. Right-click the driving directions window and select **Send E-Mail** or **Send SMS**. For this feature to work, you need to configure the mailbox or SMS server first. See C*hapter 11 SMS Alerts* or *Chapter 12 E-Mail Alerts*.

6.5 Self-Defining Event Colors

The text and background colors for each event on the Event List (Figure 1-5) can be self-defined for convenient checkup.

1. On the main screen, click **Configure** from the menu bar and select **Event List Setting**. This dialog box appears.

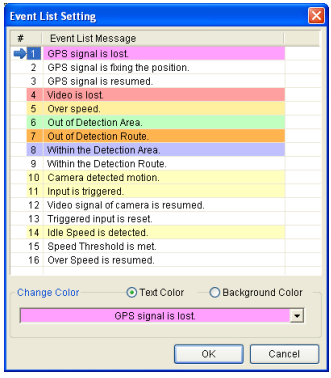

Event List Setting
Event List Message
1 GPS signal is lost.
2 GPS signal is fixing the position.
3 GPS signal is resumed.
4 Video is lost.
5 Over speed.
6 Out of Detection Area.
7 Out of Detection Route.
8 Within the Detection Area.
9 Within the Detection Route.
10 Camera detected motion.
11 Input is triggered.
12 Video signal of camera is resumed.
13 Triggered input is reset.
14 Idle Speed is detected.
15 Speed Threshold is met.
16 Over Speed is resumed.
Change Color
Text Color
Background Color
GPS signal is lost.
OK
Cancel

Figure 6-6

2. Select the desired type of event. It is shown in the drop-down list at the bottom of the dialog box.
3. Select **Text Color** or **Background Color**, and click on the drop-down list to edit the color.
4. Click **OK** to save the new color settings. All the events of the selected type in the Event List will change color based on the settings immediately.

6.6 Showing Host Position on an Alarm Event

You can view the previous position of the mobile host when it triggered an alarm event. In the Event List, right-click any **Alarm** event and select **Show Position**. A small window will pop up showing the past position of the mobile host that had triggered the event.

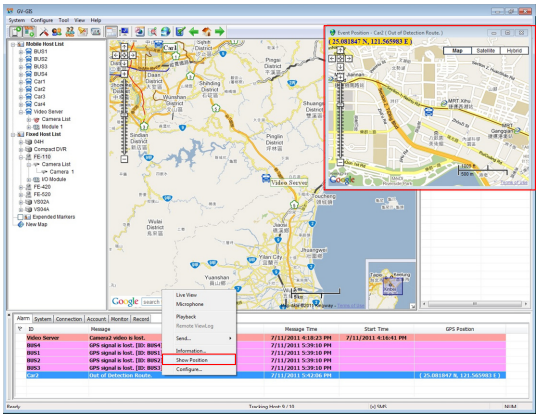


Figure 6-7

6.7 Applying Longitude and Latitude Positions on Fixed Hosts

The fixed host of GV IP devices, without GPS connectivity, can be positioned on the map. The location of the fixed host is based on the longitude and latitude values found in the Web interface of the GV IP device. By dragging the fixed host icon onto the map will automatically lock the host icon to the longitude and latitude values detected.

There are 2 methods to update the longitude and latitude values for a fixed host. Method 1 is to manually enter the longitude and latitude values for the fixed host on its Web interface. Method 2 is to drag the fixed host icon to a desired map location and GV-GIS will automatically translate the position and fill it in the longitude and latitude fields in the Web interface of the fixed host.

Note: To access the longitude and latitude settings on the Web interfaces of GV IP devices, select **Management** and select **GPS Map Settings**.

Method 1 (When the longitude and latitude values are known):

1. Access the account setting of the fixed host.
2. In the Host Information dialog box (Figure 2-5), select **Apply the Device's GPS positions** and click **OK**. The position of the fixed host is updated based on the longitude and latitude values entered in the GV IP device's Web interface. When you drag the fixed host icon onto the map, the icon will automatically move to its correct position on the map.

Method 2 (When the longitude and latitude values are unknown):

1. Drag a fixed host icon onto the desired location on the map.
2. Right-click the fixed host and select **Update Position to Host**. The current map location for the fixed host is now updated to the longitude and latitude fields in the GV IP device's Web interface.
3. When the longitude and latitude values for the fixed host is found and set with Method 2, GV-GIS operators can follow **Method 1** steps to always lock the fixed host on the same position in the future.

6.8 Monitoring GV-I/O Boxes

You can remotely monitor the I/O status and force any output device to be triggered when needed. The application only supports **GV-I/O Box 8/16 Ports** with Ethernet Module.

To add the I/O Box, follow the steps of *Creating a Fixed Host* earlier in this chapter and select **I/O Box** to be **Host Type**. When the setup is completed, the added I/O Box will be displayed on the Fixed Host List (No. 1, Figure 1-3).

To monitor the I/O status, right-click the I/O host and select **Event Monitor**. The input and output triggers will be detected by GV-GIS.

To remotely force any output, right-click one output icon and select **Force Output**.

Chapter 7 Event Log Browser

The GV-GIS records the events in five types of logs: Alarm, System, Connection, Account and Monitor. With the event logs in the Event Log Browser, you can obtain information about tracking alarms, system activities, host connectivity, account changes and monitored events. On the toolbar, click the **Event Log Browser** button (No. 8, Figure 1-4) to start.

Tip: Right-clicking an Alarm event, you can access the functions of Remote Playback, Instant Playback and Show Position.

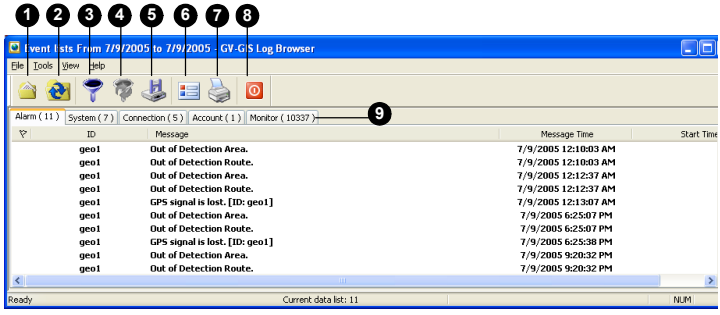

1
2
3
4
5
6
7
8
9
Event Lists From 7/9/2005 to 7/9/2005 - GV-GIS Log Browser
File Tools View Help
Alarm (11) System (7) Connection (5) Account (1) Monitor (10337)
ID Message Message Time Start Time
geo1 Out of Detection Area. 7/9/2005 12:10:03 AM
geo1 Out of Detection Route. 7/9/2005 12:10:03 AM
geo1 Out of Detection Area. 7/9/2005 12:12:37 AM
geo1 Out of Detection Route. 7/9/2005 12:12:37 AM
geo1 GPS signal is lost. [ID: geo1] 7/9/2005 12:13:07 AM
geo1 Out of Detection Area. 7/9/2005 6:25:07 PM
geo1 Out of Detection Route. 7/9/2005 6:25:07 PM
geo1 GPS signal is lost. [ID: geo1] 7/9/2005 6:25:38 PM
geo1 Out of Detection Area. 7/9/2005 9:20:32 PM
geo1 Out of Detection Route. 7/9/2005 9:20:32 PM
Ready
Current data list: 11
NUM

Figure 7-1

The buttons on the Event Log Browser:

No.	Name	Description
1	Open	Open an event log. See *7.1 Opening the Event Log*.
2	Reload	Refresh the event log manually.
3	Filter	Define the search criteria. See *7.2 Filtering the Event Log*.
4	Refresh the Filter Result	Refresh the filter results.

No.	Name	Description
5	Backup	Export the current event list. See *7.3 Backing Up the Event Log*.
6	Page Setup	Create a header and footer for the printout of the event list. See *7.4 Printing the Event Log* later.
7	Print	Print the current event list.
8	Exit	Exit the browser.
9	Log Tab	Click the log tabs of Alarm, System, Connection, Account and Monitor to get the related log events.

7.1 Opening the Event Log

To open the log data, follow these steps:

1. Click the **Open** button (No. 1, Figure 7-1). This dialog box appears.

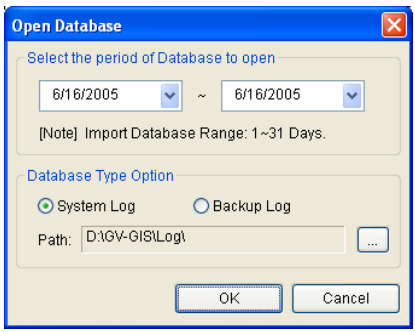


Figure 7-2

2. Specify a period of time and select the type of database. If you want to open the logs created by the system, select **System Log**; if you want to open the logs you have backed up in a local drive or CD/DVD, select **Backup Log**. Then assign the log path.
3. Click **OK**. The events matching the search criteria are displayed in the Event Log Browser.

For details on backing up logs, see *7.3 Backing up the Event Log*.

Note: By default, the displaying period of time is one day, the type of database is **System Log** and the log path is at: **\GV-GIS\Log**. The default displaying period of time and log path can be modified by using the Event Log Settings (Figure 8-3).

7.2 Filtering the Event Log

You can filter log events on the defined criteria.

1. Click the **Filter** button (No. 3, Figure 7-1). This dialog box appears.

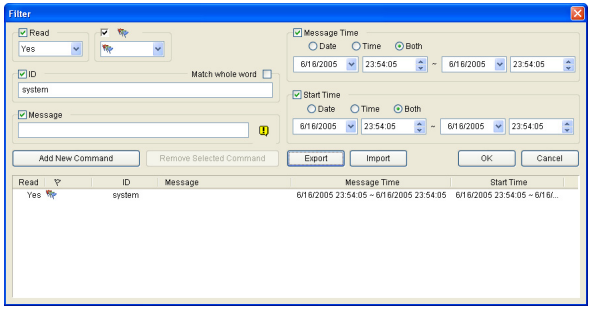


Figure 7-3

2. Specify the filter options that you want:
   - **Read:** Search for the events you have opened on the Event List that is at the bottom of the GV-GIS main screen.
   - **Flag:** Search for the flagged events.
   - **ID:** Search for the events from a specific host or related to system activities.
   - **Message:** Search for the events by keywords.
   - **Message Time:** Search for the events by the arriving time or date to the GV-GIS.
   - **Start Time:** Search by the starting time of the events occurred at the host.
3. If you want to save your filter settings to another location, click **Export**. If you want to apply the pre-defined filter settings, click **Import**.
4. Click **OK**. The events matching the filter settings are displayed in the Event Log Browser.

7.3 Backing up the Event Log

You can back up logs to a local drive, or export them to CD and DVD.

1. Click the **Backup** button (No.5, Figure 7-1). This dialog box appears.

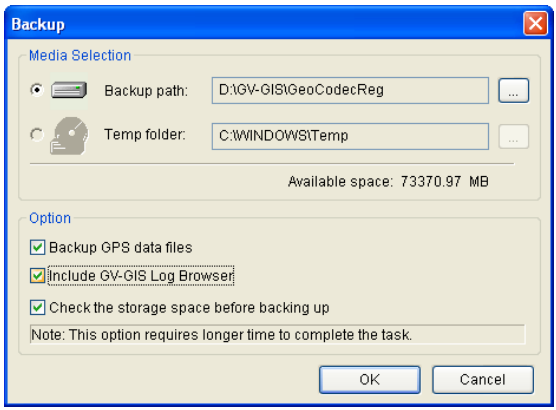


Figure 7-4

2. To back up logs to a local drive, select **Backup Path**, click the **[…]** button and assign a location wehere you want to save the files.
3. To export logs to CD and DVD, select **Temp folder**, click the **[…]** button and assign a location for temporary storage of backup data.
4. For backup contents, you can select **Backup GPS data files** to back up GPS data and event logs; select **Include GV-GIS Log Browser** to include the Event Log Browser program with the backup data.
5. Click **OK**.

6. If you select **Temp folder**, this dialog box appears for further setup.

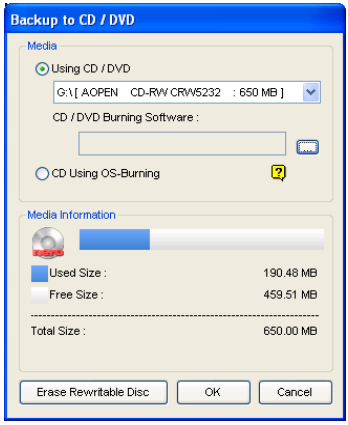


Figure 7-5

- **Using CD/DVD:** Click to back up files to the CD or DVD using the third-party software. Click the **[…]** button to assign the desired burning software (.exe file).
- **CD Using OS-Burning:** This option is only available when you use Windows XP, Server 2003, Vista or Windows 7. It burns files to the CD or DVD using the inbuilt software of the operating system.

7.4 Printing the Event Log

You can print out the filtered log events, and define the footer and header for the printout.

1. To print the log events, click the desired log tab (No. 9, Figure 7-1) to display its log events.
2. Click the **Page Setup** Button (No. 6, Figure 7-1). This dialog box appears.

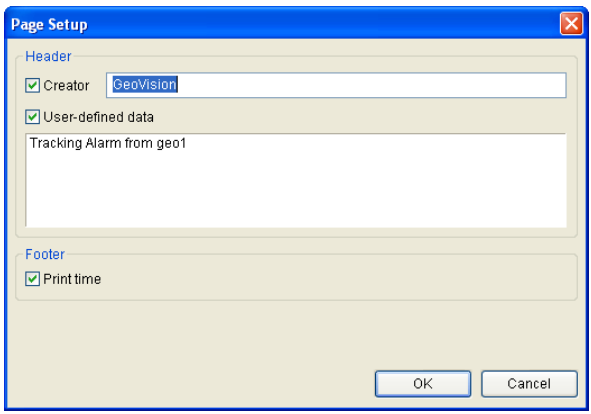


Figure 7-6

3. Select the options and type the information you want to for the header and footer and click **OK**.
4. Click the **Print** button (No. 7, Figure 7-1) to start printing.

Chapter 8 System Configurations

To configure the GV-GIS system, click the **System Configuration** button (No. 3, Figure 1-4) on the toolbar.

8.1 Layout Settings

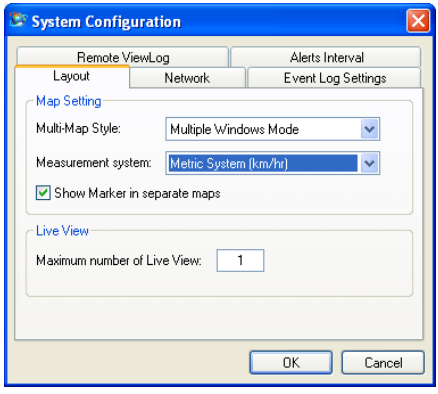


Figure 8-1

- **Multi-Map Style:** Select **Multiple Window Mode** to display tracked hosts in different windows; select **Single Window Mode** to display all tracked hosts in the same window. See *3.6 Tracking Multiple Hosts*.
- **Measurement system:** Select imperial or metric measurements.
- **Show Marker in separate maps:** When the option is selected, the created Markers will also be shown in multiple tracking views (Figure 3-10).
- **Maximum number of Live View:** Specify the maximum number of the Live View window displayed on the screen between 1 and 16. See *3.3 Viewing Live Video*.

8.2 Network Settings

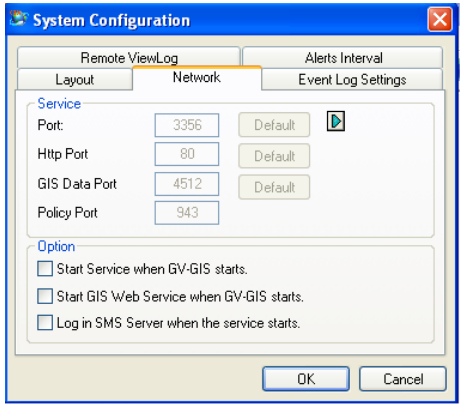


Figure 8-2

- **Port:** The default communication ports are 3356, 80, 4512, and 943. If there is a router or firewall installed with the GV-GIS server, ensure these ports are open.
- **Start Service when GV-GIS starts:** Automatically starts the service when the GV-GIS is started.
- **Start GIS Web Service when GV-GIS starts**: Automatically starts the GIS Web service when GV-GIS is started.
- **Log in SMS Server when service starts:** Automatically starts the SMS Server when GV-GIS services are started.

8.3 Event Log Settings

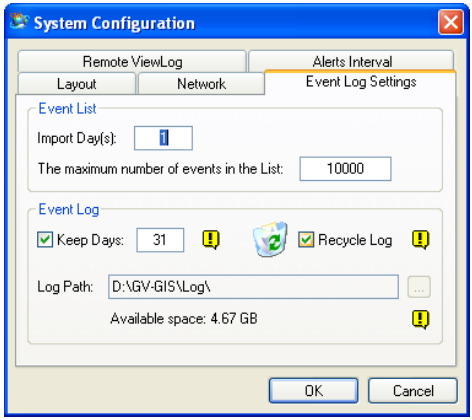


Figure 8-3

[Event List]

- **Import Day(s):** Specify the number of days for which data logs will be loaded when the Event List (No. 9, Figure 1-3) and the Event Log Browser (Figure 7-1) are opened. The number is between 1 and 7 days.
- **The maximum number of events in the List:** Specify the maximum number of events displayed in the Event List. The number is between 500 and 500000.

[Event Log]

- **Keep Days:** Select this option and specify the number of days to keep logs. Cleaning this option can keep logs for an unlimited period of time unless the disk space is full or the Recycle function is activated.
- **Recycle Log:** Selecting this option will cause the oldest files to be deleted when the storage space is lower than 500 MB.
- **Log Path:** Indicate the saved location of logs.

8.4 Remote ViewLog Settings

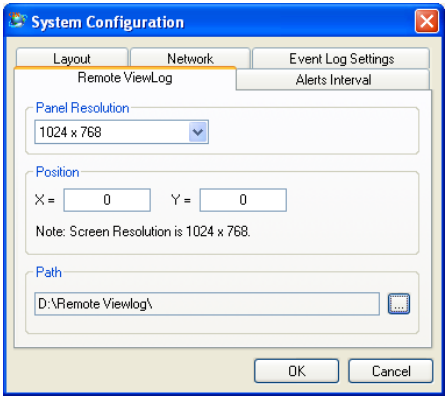


Figure 8-4

[Panel Resolution] Select the panel resolution of the Remote ViewLog player.

[Position] Set the position of the Remote ViewLog player on screen. The position settings support negative coordinates and correspond to the XY coordinates in Windows Display Properties.

[Path] Specify the saved location of the Remote ViewLog program.

8.5 Alert Intervals

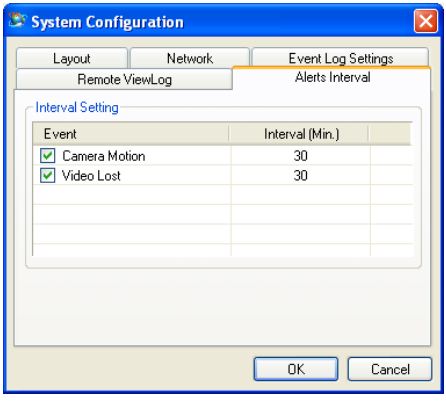


Figure 8-5

[Interval Setting] Specify the interval between the incoming messages upon Camera Motion or Video Lost. Select the event type and click on the interval column to change the time.

Chapter 9 Notification Settings

When alert conditions occur, GV-GIS can automatically activate the assigned computer and output alarm to warn GV-GIS operators while a pre-defined SMS and e-mail message are being sent out to warn related persons.

To access the function, click the **Notification** button (No. 4, Figure 1-4) on the toolbar.

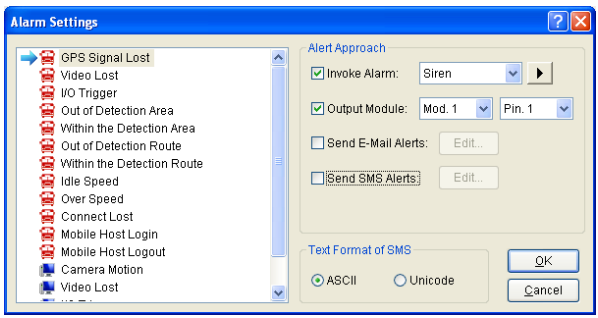


Figure 9-1

[List box] Select an alert condition in the left list box to be configured.

[Alert Approach]

- **Invoke Alarm:** Select a computer alarm from the drop-drown list. Or, select **User Define** from the list to import one desired .wav sound. Click the **Arrow** button beside to test the assigned alarm.
- **Output Module:** Select an installed output model and pin number to warn the operator.
- **Send E-Mail Alerts:** Enable this option to send e-mails to warn related persons. Click the **Edit** button to edit a message. For Mailbox settings, see *Chapter 12 E-Mail Alerts*.
- **Send SMS Alerts:** Enable this option to send SMS messages to warn related persons. Click the **Edit** button to edit a message. For SMS Server settings, see *Chapter 11 SMS Alerts*.

[Text Format of SMS] ASCII for English text, limited to 160 characters. Unicode for other languages, limited to 70 characters.

Note:

1. For SMS and e-mail alerts, it is required to configure the Mailbox and SMS Server first. It is also required to enter the e-mail address and mobile number to the individual host's account (see *2.2 Creating Host Accouts*).
2. For output alarms, a GV-I/O Box should have been added to GV-GIS. See *Chapter 10 Output Alerts.*

Chapter 10 Output Alerts

When alert condition occurs, you can activate the output devices installed at the GV-GIS site and at the remote host. Currently the application only supports GV-I/O modules.

10.1 Adding Output Devices

To install output devices on the GV-GIS, follow the steps below.

1. Click **Configure** from the menu bar of the main screen and select **I/O Device Setting**. This dialog box appears.

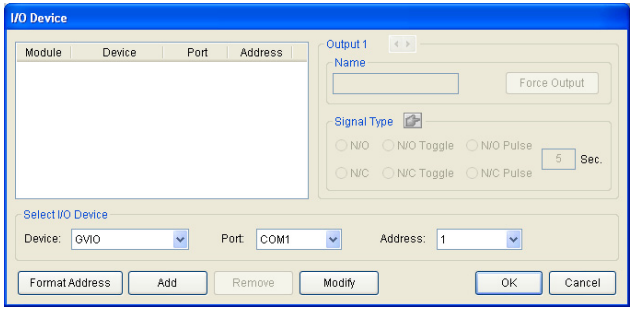


Figure 10-1

2. Select the I/O module from the Device drop-down list.
3. Select the COM port that the I/O module is connected to.
4. For the user of the GV-I/O and GV-Relay module, click the **Format Address** button to assign an address to the device. In the Format Address dialog box, start your first device with **New Address** set to 1 and click the **Write** button to write the address into the device.
5. For the user of the GV-I/O Box 4, 8 or 16 ports, the device address should be set on the device itself first. Select the correct address number from the Address drop-down list.

6. Click the **Add** button. You should see the device listed in the display window.
7. Repeat above steps to add more devices, and remember to assign a different address for each device.

Other options on the I/O Device dialog box:

[Name] Name the output device.

[Force Output] Click this button to force the output to be triggered.

[Signal Type] Select output signal to be normally closed (NC) or normal open (NO). For Toggle status, the output trigger will keep going on until a new trigger happens. For Pulse status, the output is triggered for the amount of time specified in the Sec field (seconds).

10.2 Forcing Outputs of GV-GIS

To automatically force any output to be triggered when alert conditions occur, see *Chapter 9 Notification Settings*.

To manually force any output to be triggered, click the **Local I/O Device Control** button (No. 5, Figure 1-4), select a desired module and then click **Finger** button to trigger it.

10.3 Forcing Outputs of a Host

See *5.2.3 Output Icon*.

Chapter 11 SMS Alerts

You can send SMS messages to warn related persons when alert conditions occur.

11.1 Setting SMS Server

Before sending SMS messages, you need to define SMS Server correctly.

1. On the main screen, click **Configure** from the menu bar and select **SMS Setting**. This dialog box appears.

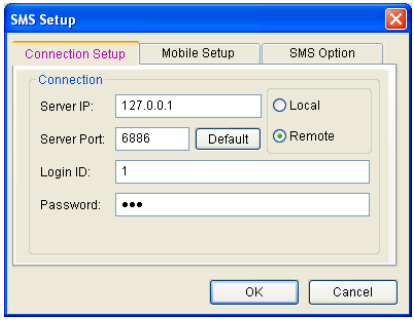


Figure 11-1

2. Type the IP address, communication port, Login ID and Password of the SMS Server.
3. If the SMS Server is installed on the same computer with the GV-GIS, select **Local.** If not, select **Remote**.

4. To configure up to three mobile numbers of operators to get notified when the GV-GIS loses connection to SMS Server, click the **Mobile Setup** tab. This dialog box appears.

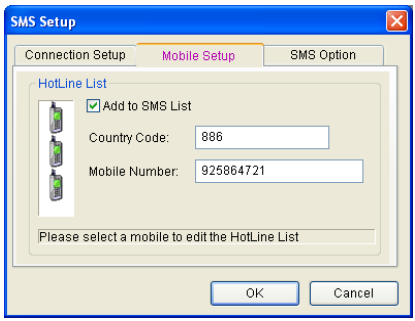


Figure 11-2

5. Select one mobile icon, select **Add to SMS List**, and type country code and mobile number.
6. To set time intervals between each SMS message when alert occurs, click the **SMS Option** tab. This dialog box appears.

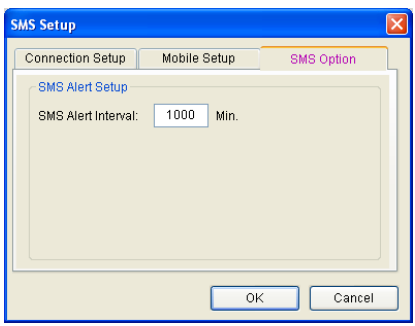


Figure 11-3

5. In the SMS Alert Setup field, set the interval between 0 and 1440 minutes.

For details on building a SMS Server, see Chapter 10, *GV-DVR User's Manual* on the Software DVD.

11.2 Connecting to SMS Server

On the main screen, select **Configure** from the menu bar and select **Connect to SMS Server** for connection to SMS Server.

11.3 Sending SMS

Once the connection of SMS Server and GV-GIS is established, there are several ways to send SMS messages.

1. To automatically send SMS messages when alert conditions occur, see *Chapter 9 Notification Settings*.
2. To manually send SMS messages to warn any person anytime, right-click one host on the Host List or on the map, select **Send SMS Message**, and enter the desired mobile number and contents for alerts.

11.4 Inserting Text to Alert Messages

The host's ID and camera name can be automatically inserted to your SMS message when it is sent out.

1. Click the **Notification** button (No. 4, Figure 1-4) on the toolbar. The Alarm Settings dialog box appears.
2. Select an alert condition in the left list box, select **Send SMS Alerts**. This dialog box appears.

Figure 11-4

3. Type the message text and click **Macros**. This dialog box appears.

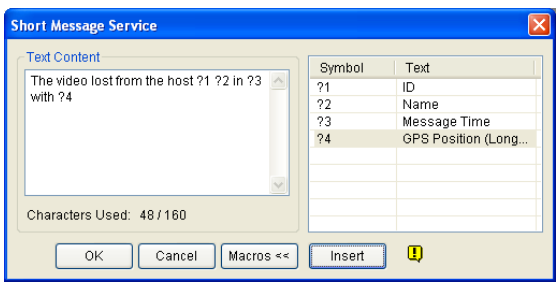


Figure 11-5

4. Place the pointer in the text where you want to insert the ID, Name, Message Time or GPS Position, select the corresponding symbol from the right column, and click **Insert**.

The symbol will be replaced with the real information when the message is displayed to a reader.

Chapter 12 E-Mail Alerts

You can send e-mails to related persons when alert conditions occur.

12.1 Setting Mailbox

Before you can send the e-mail to an e-mail account, you need to define your mailbox correctly.

12.1.1 Setting up the mailbox

1. On the main screen, click **Configure** from the menu bar and select **E-Mail Setting**. This dialog box appears.

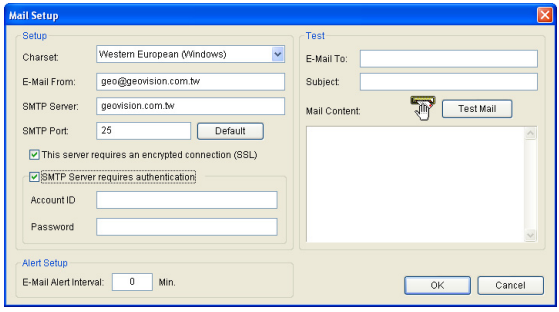


Figure 12-1

2. In the Charset field, select the set of characters and symbols that the e-mail uses.
3. In the E-Mail From field, type your e-mail address.
4. In the SMTP Server field, type the outgoing server address.
5. If your e-mail server requires an SSL (Secure Sockets Layer) authentication for connection, select **This server requires an encrypted connection (SSL)**.

6. If your e-mail service provider requires authentication for sending e-mails, select **SMTP Server requires authentication**, and type the account ID and password of your SMTP.
7. If you want to set time intervals between each e-mail message when alert occurs, in the Alert Setup field, set the interval between 0 and 1440 minutes.
8. Click **OK**.

12.1.2 Sending a Test E-Mail

After setting up your mailbox, you can use the Test section and send a message to your own e-mail account for testing.

1. Enter your own e-mail address in the E-Mail To field.
2. Enter a subject for the e-mail.
3. Type the desired message in the Mail Content field.
4. Click the **Test Mail** button.

12.2 Sending E-Mail

There are several ways to send e-mails.

1. To automatically send e-mails when alert conditions occur, see *Chapter 9 Notification Settings*.
2. To manually send e-mails to warn any person anytime, right-click any host on the Host List or on the map, select **Send E-Mail**, and enter the desired mail address and contents for alerts.

Chapter 13 Failover Support

You can configure up to two backup servers in case of the primary GV-GIS server failure. Whenever the primary fails, the backup server takes over the connection from the primary server, providing uninterrupted GIS services.

1. It is required to pre-configure the backup server with the same account settings as the primary station first.
2. On the main screen, select **System** from the menu bar, and select **Automatic Failover Support**. This dialog box appears.

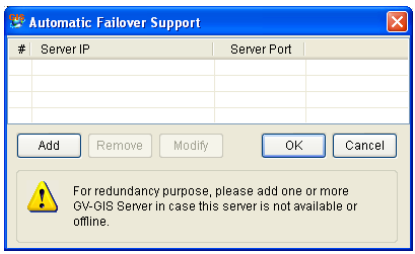


Figure 13-1

3. Click the **Add** button to add one server. This dialog box appears.

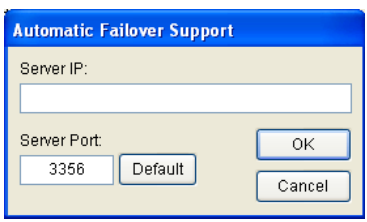


Figure 13-2

4. Type the IP Address of the backup server. Keep the default port setting or modify it if necessary.

5. Click **OK**. When the primary GV-GIS server fails, all connections from subscribers will be diverted to the backup server.

Note: Once the primary station is ready to resume the services, it is required to close the backup station so the connection from subscribers can move back to the primary.

Chapter 14 Remote Viewing Using a Web Browser

You can remotely access the GV-GIS through a Web browser.

Note: You need Internet Explorer 7.x or above for remote viewing.

14.1 Creating Web Accounts

You can create web accounts with different privileges to access the GV-GIS's Web interface. There are two types of accounts: **Supervisor** and **User**. Supervisor accounts have all the privileges to all hosts, while User accounts have the specified privileges on the selected hosts.

1. On the toolbar, click the **Web Account** button (No. 5, Figure 1-4). This dialog box appears.

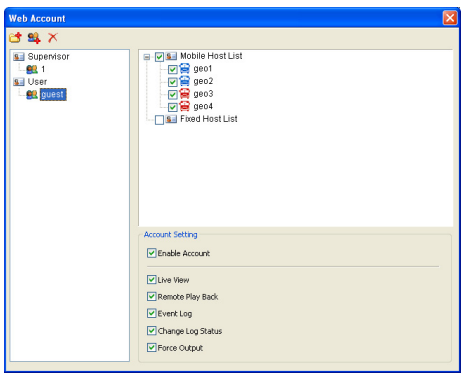


Figure 14-1

2. Select one type of account on the left list: Supervisor or User. Then click the Add Account button to create an account under the Supervisor or User.
3. If you create a User account, you can limit the account's privileges with the following options:
   - **Enable Account:** Enable or disable the user account.
   - **Live View:** Allows access to live view of the selected hosts.
   - **Remote Playback:** Allows access to the recordings of the selected hosts.
   - **Event Log:** Allows access to the Event List and Event Log.
   - **Change Log Status:** Allows marking events in the Event List with color flags or unmarking the events. The feature is useful not only when browsing in the Event List but also when searching the events.
   - **Force Output:** Allows forcing the output of the selected host to be triggered.

14.2 Accessing the Web Interface

You can access the GV-GIS remotely through network. To access the GV-GIS's Web interface, ensure the **Web Service** (No. 3, Figure 1-4) on the GV-GIS has been enabled.

1. Start the Internet Explorer browser.
2. Enter the IP address or the domain name of the GV-GIS in the Location/Area filed of your browser. The first-time user will be prompted to install Windows Silverlight. After the installation, this web page appears.

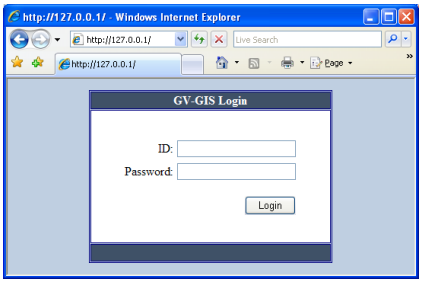


Figure 14-2

3. Enter the ID and password of a web account to log into the Web interface.

4. Click **Login**. This Web page appears.

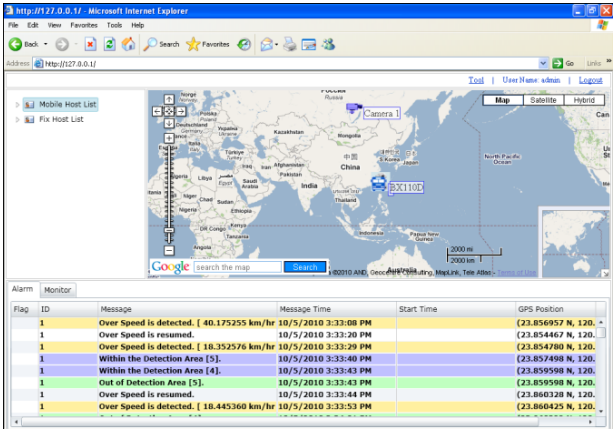

http://127.0.0.1/ - Microsoft Internet Explorer
Mobile Host List
Fix Host List
Camera 1
BX110L
Map
Satellite
Hybrid
Alarm
Monitor
Flag ID Message Message Time Start Time GPS Position
1 Over Speed is detected. [40.175255 km/hr 10/5/2010 3:33:08 PM (23.856957 N, 120.
1 Over Speed is resumed. 10/5/2010 3:33:20 PM (23.854467 N, 120.
1 Over Speed is detected. [18.352576 km/hr 10/5/2010 3:33:29 PM (23.854780 N, 120.
1 Within the Detection Area [5]. 10/5/2010 3:33:40 PM (23.857498 N, 120.
1 Within the Detection Area [4]. 10/5/2010 3:33:43 PM (23.859598 N, 120.
1 Out of Detection Area [5]. 10/5/2010 3:33:43 PM (23.859598 N, 120.
1 Over Speed is resumed. 10/5/2010 3:33:44 PM (23.860328 N, 120.
1 Over Speed is detected. [18.445360 km/hr 10/5/2010 3:33:53 PM (23.860425 N, 120.

Figure 14-3

14.3 Accessing Monitoring Features

On the map or the host list, right-click the Host icon to access the tracking, live video and remote playback features. The Input and Output icons can provide you the trigger status of I/O devices in real time. You can also force any Output device to be triggered.

14.3.1 Host Icon

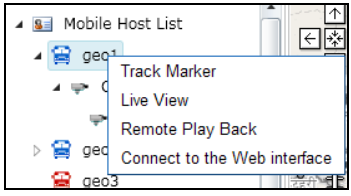


Figure 14-4 Mobile Host Icon

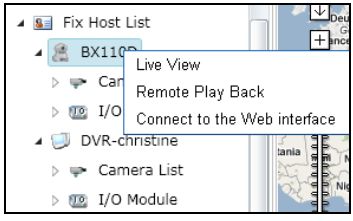


Figure 14-5 Fixed Host Icon

Feature	Description
Track Marker	Only available for Mobile Host Icon. Always keep the host icon staying at the center of the map when the vehicl moves. A yellow block similar to the following figure will be displayed on the map. Clicking the yellow block will stop the host tracking.

	Pause Track: **geo1**
Live View	Display live view. See *14.4 Viewing Live Video from a Web Browser*.
Remote Playback	Play back videos recorded at the host. See *14.5 Retrieving Recorded Videos from a Web Browser*.
Connect to the Web Interface	Access the Web interface of the host.

14.3.2 Input and Output Icons

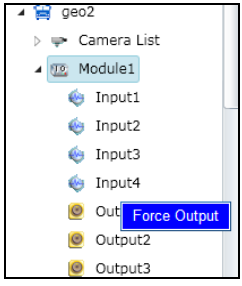


Figure 14-6

Feature	Description
Input	When the input is triggered, the input icon will blink to warn users.
Output	When the output is triggered, the output icon will blink to warn users. You can also remotely trigger the output by righ-clicking the ouput icon and selecting **Force Output**.

14.4 Viewing Live Video from a Web Browser

To view live video in the GV-GIS's Web interface, right-click one Host icon and select **Live View**. The following Live View window will appear.

If the remote video device is the GV-System (DVR), ensure to enable its **WebCam Server** to allow the remote access.

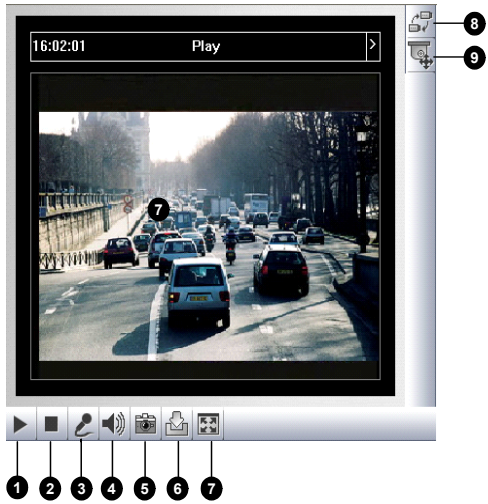


Figure 14-7

Note: It is required to modify the GV-GIS Http port number or the WebCam Server's Http port number if the two are run on the same computer. Follow the instructions in Appendix E.

The controls on the Live View window:

No.	Name	Description
1	Play	Play live video.
2	Stop	Stop playing video.
3	Microphone	Talk to the surveillance area from the local computer.
4	Speaker	Listen to the audio around the camera.
5	Snapshot	Take a snapshot of live video.
6	File Save	Record live video to the local computer.
7	Full Screen	Switch to full screen view. Right-click the image to have these options: **Snapshot**, **PAP**, **PIP**, **Zoon in** and **Zoom Out**.
8	Change Camera	Select the desired camera for video display.
9	PTZ Control	Start the PTZ control panel.

14.5 Retrieving Recorded Videos from a Web Browser

You can retrieve recorded videos of any desired host from the GV-GIS's Web interface. Before you can review videos recorded on a remote video device, the following function must be enabled at the remote video device to allow access:

- **GV-System (DVR):** Enable **Remote ViewLog Service** on Control Center Service.
- **GV-Video Server, GV-Compact DVR, GV-IPCAM:** Enable the **Remote ViewLog** function.

1. Right-click one Host icon and select **Remote Playback**.
2. The Single Player program will be downloaded to your computer automatically. Set your browser to allow the once-only installation of Single Player program and ActiveX components onto your computer.
3. Once the installation is complete, the Connect to the Remote ViewLog Service dialog box will appear. Enter the login information of the host and click **Enter**. This playback window appears.

Figure 14-8

4. Select a desired video event from Video Event List, and click **Play** button to review the video.
5. Right-click the Playback window to have more features. For details, see *5.4 Retrieving Recorded Videos*.

14.6 Accessing the Event Log from a Web Browser

You can access the Event Log from the GV-GIS's Web interface to obtain information of alarm and monitored events.

1. Click the **Tool** button in the upper right corner of the Web page, and select **Event Log.** This dialog box appears.

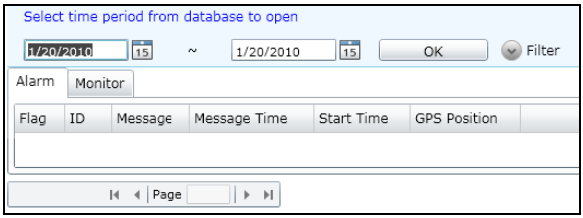


Figure 14-9

2. Click the **Filter** button.
3. Specify the filter criteria to search the desired events. For details, see *7.2 Filtering the Event Log*.

14.7 Getting Driving Directions from a Web Browser

You can get the step-by-step driving directions from the GV-GIS's Web interface. This feature may not be available to your location depended on Maps API.

If the MAP API you select is the **Google MAP**, ensure to register your IP address with the Google Maps API before starting this web service; otherwise you cannot access this feature.

1. Right-click on the map, and select **From** to set the starting point.
2. Right-click on the map, and select **To** to set the stop where you want to go before reaching to the final destination. You can configure multiple stops.
3. Right-click on the map, and select **Destination** to set the destination. A possible route and step-by-step directions are displayed in the left-side box on the map.

Appendix

A. Specifications

Feature	Amount	Device
Mobile Host	Up to 500 hosts (depending on the Dongle in use)	GV-Video Server GV-Compact DVR GV-System GV-Recording Server / Video Gateway
Fixed Host	Unlimited	GV-DVR/NVR GV-Video Server GV-Compact DVR GV-IP Cam GV-Speed Dome GV-Smart Box GV-I/O Box 8/16 Ports (Ethernet Module) 3rd-party IP devices
I/O Module	9 units	GV-I/O GV-I/O Box (4/8/16 Ports)
Live View	16 views	Mobile Hosts + Fixed Hosts
Map View	16 views	Mobile Hosts
Marker	Unlimited	
ViewLog	1	Remote ViewLog program required to be installed
Instant Playback	1	

B. GV-GIS Dongle Upgrade and Downgrade

No matter external or internal, the USB Dongle can be upgraded to include more functions or enhance the system. On the other hand, by downgrading the Dongle, you could reduce the number of ports to distribute to more systems.

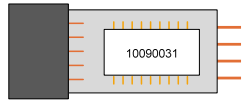
You need to collect the data from your dongle and send it back to GeoVision for upgrade or downgrade. Either upgrade or downgrade is a charged service. To upgrade or downgrade your dongle, follow these steps:

Note: The GV-USB Dongle driver (V1.2.1.0) limits the total number of upgrade and downgrade on a single dongle to **9 times.**

---

1. Each dongle has its own serial number. Find it on the side of the External dongle or on the back of the Internal dongle. Later this serial number will be used in naming the files for upgrade or downgrade.

External Dongle



Internal Dongle

2. Insert the dongle to the computer.
3. In the GIS folder, double-click **GVUsbKeyUpClient.exe**. This dialog box appears.

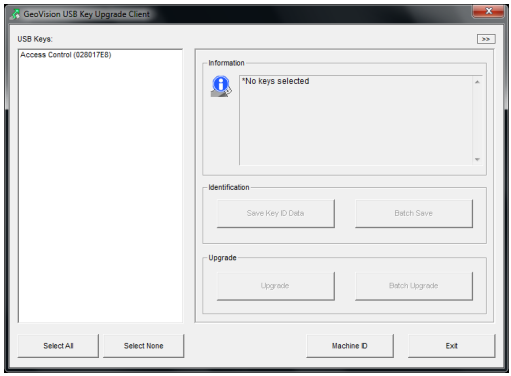


Figure B-1

4. To retrieve the data from the dongle, click **Select All**. The information of the dongle is displayed in the information field. Note the displayed number of “HW Serial” should be the same as that on the dongle.

5. **To Upgrade the Dongle:**
   a. To save the data to your local computer, click **Save Key ID Data**. If you have more than one dongle to upgrade, click **Batch Save**. Different dongle data is saved as separate files. The file is named after the serial number on the dongle and saved as ***.out**. For example, if a dongle serial number is 7116442, the file is named “NVR-7116442.out”.
   b. Send this data file to GeoVision at sales@geovision.com.tw. The GeoVision will examine the data file and send an ***.in** file back to you. The file name also includes the serial number of that dongle. In this example, the data file you will receive is named “NVR-7116442.in”.

c. After you receive the updated file, insert the correct dongle matching the .in file you receive, and then run **GVUsbKeyUpClient.exe**.

d. Click **Select All** to read the dongle, click **Upgrade** and then open the updated file to upgrade the dongle. You can also select more than one dongle in the list and click **Batch Upgrade** to upgrade them at the same time. Make sure these dongles match the updated files you receive.

6. **To Downgrade the Dongle:**

Note: By downgrading the Dongle, the export of dongle data will erase the data in the dongle. The dongle is unable to function until importing a new data file given by GeoVision.

---

a. Click the arrow button >> on the top right corner and the dialog box extends the Advanced Options.

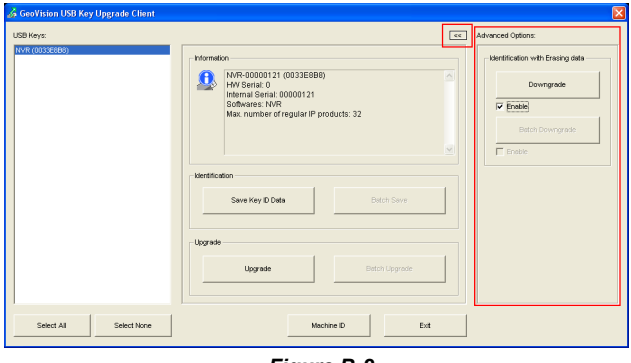


Figure B-2

b. Select **Enable**. If you have more than one dongle to downgrade, select **Enable** beneath the **Batch Downgrade** button.

c. Click the **Downgrade** button. If you have more than one dongle to downgrade, click the **Batch Downgrade** button.

d. To save the data on your computer, click **Yes**. The data is saved as ***.ou2** format. The file is named after the serial number on the dongle and saved as ***.ou2**. For example, if a dongle serial number is 7116442, the file is named "NVR-7116442.ou2".

e. After you save the data, your dongle data is erased. The dongle is unable to function until importing a new data file given by GeoVision.

f. To complete the downgrade process, refer to step 5: b, c, and d.

C. Shortcut Keys

Shortcut Keys	Description
F2	Open the Account window for account settings.
F3	Open the Find dialog box for account search.
F4	Go to the tracking map.
F5	Open or close the Event List.
F6	Open or close the Monitor List.
F7	Open the Range Query dialog box to search for places and devices.
F8	Open the E-Map Setting dialog box to set the minimal zoom level of the E-Map icon on the tracking map.
F9	Open the System Configure dialog box.
F10	Open the Log Browser.

D. GPS Settings on GV-System

GV-System can record the video along with GPS data of its own and the connected IP devices. With the recorded GPS data, you can view the recordings simultaneously with the GPS locations of GV-System and connected IP devices on Google Maps, Microsoft Virtual Earth or self-defined maps.

If you are the user of GV-GIS monitoring station, the GPS data collected from either GV-System or from connected IP devices can also be sent to the GV-GIS for central monitoring. To send the GPS data from GV-System to the GV-GIS, you need to follow the sections below to finish these settings:

1. Setting the GPS Receiver
2. Recording GPS Locations of GV-System
3. Recording GPS Locations of the IP Device
4. Sending GPS Data to the GV-GIS

D.1 Setting the GPS Receiver

To record the GPS location data of GV-System, a GPS receiver with a USB connector is required to connect to the local computer. Also, you need to run the **GeoGISClient** program in the background to receive the GPS data from the GPS receiver.

1. Run **GeoGISClient.exe** from the GV folder. This dialog box appears.

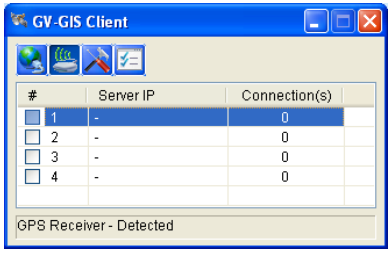


Figure D-1

2. To add the GPS receiver to the GV-System, click the button and click the **GPS Receiver** tab. This dialog box appears.

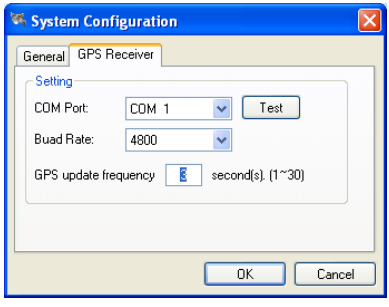


Figure D-2

3. Select the **COM Port** the GPS receiver is connected to and click **Test** to detect the device. Select **Baud Rate** of the GPS receiver (refer to the documentation of the GPS receiver). Specify the time in seconds for the frequency to update the GPS data. Then click **OK**.
4. Click the button to start receiving GPS data from the GPS receiver.

D.2 Recording GPS Locations of GV-System

After configuring the GPS receiver on GV-System as mentioned earlier, you can enable the GIS function to record videos with GPS locations of GV-System.

1. To enable the GIS function of GV-System, click the **Configure** button on the main screen, select **Accessories** and select **Enable Local GIS**.
2. Start monitoring. The GPS data of GV-System will be recorded with the video.

D.3 Recording GPS Locations of the IP Device

If the connected IP device is also equipped with and enabled for the GPS function, you can choose to record videos with GPS locations of the IP device.

1. To record the GPS data of a remote IP device, ensure the GPS function on the IP device is enabled.
2. Right-click the IP device listed on the IP Device Setup window, select **GIS Settings** and select **Enable GIS Data**.
3. To enable the GIS function of GV-System, click the **Configure** button on the main screen, select **Accessories** and select **Enable Local GIS**.
4. Start monitoring. The GPS data of the IP device will be recorded with its own video.

Note:

1. If the GIS function of GV-System is not enabled at Step 4, the GPS data of the IP device will not be recorded on GV-System.
2. If the remote GIS function of the IP device is not enabled at Step 3, the video of the IP device will be recorded with the GPS data of GV-System, instead of the GPS data of the IP device.

D.4 Sending GPS Data to the GV-GIS

You can configure up to 4 GV-GIS stations to receive the GPS data of the GV-System and connected IP devices simultaneously.

Sending Only GPS Data of the GV-System

To send only GPS data of GV-System to the GV-GIS station, follow the steps below. On the GV-GIS station, a **Mobile Host** account for GV-System needs to be created first.

1. To allow the remote access from GV-GIS to GV-System, enable **Control Center Server** from the **Network** button on the main screen.
2. Click the button on the GV-GIS Client window (Figure D-1). This dialog box appears.

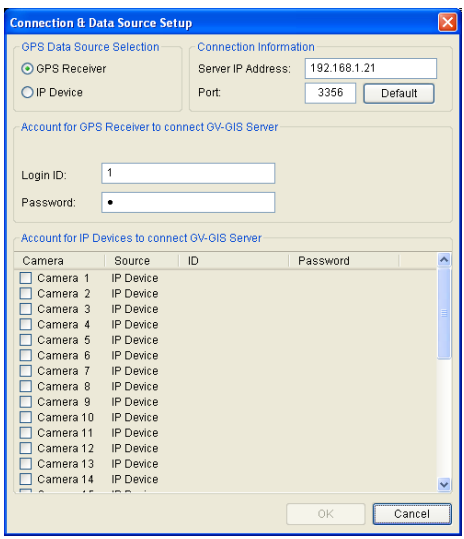


Figure E-4

3. In the GPS Data Source Selection section, select **GPS Receiver**.
4. In the Connection Information section, type the IP address of GV-GIS. Keep the default port value of 3356, or modify it if necessary.
5. In the Account for GPS Receiver to Connect GV-GIS Server section, type login ID and password already created on GV-GIS for GV-System.
6. Click **OK**.
7. To create connection to other GV-GIS stations, double-click # 2 to # 4 columns on the GV-GIS Client window and configure the connection information by following above steps.
8. To start connecting to GV-GIS, click the button. The GPS data of GV-System will be sent to GV-GIS.

To connect to the GV-GIS, make sure the service on the GV-GIS is enabled; the **Login to GV-GIS** and **Starting Receiving GPS Data for GPS Receiver** functions on the GV-GIS Client window (Figure D-1) are enabled too.

Note:

1. The GV-GIS only supports one camera from the GV-System mobile host.
2. The GV-GIS does not support the I/O function of GV-System.

Sending GPS Data of both GV-System and Connected IP Devices

You can not only send the GPS data of GV-System to the GV-GIS station, but also those of connected IP devices. On the GV-GIS station, the **Mobile Host** accounts for GV-System and IP devices need to be created individually in advance. With the feature, you can display up to 33 mobile hosts, from the GV-System and its 32-channel IP devices, on the GV-GIS.

1. To allow the remote access from GV-GIS to GV-System, enable **Control Center Server** from the **Network** button on the main screen.
2. Ensure **Enable Connection to GV-GIS** is enabled for desired IP devices to receive the GPS data from those IP devices (Figure D-3).
3. Click the button on the GV-GIS Client window (Figure D-1). This dialog box appears.

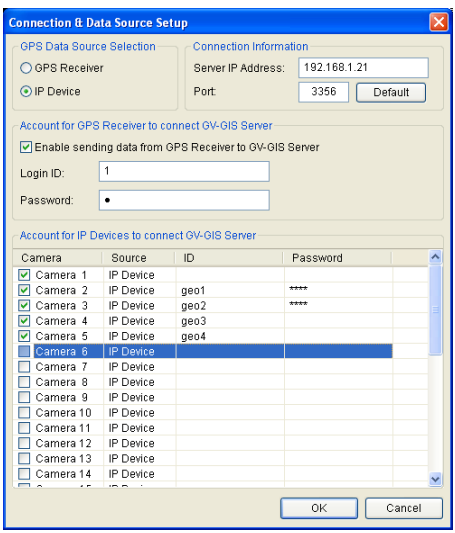


Figure E-5

4. In the GPS Data Source Selection section, select **IP Device**.
5. In the Connection Information section, type the IP address of GV-GIS. Keep the default port value of 3356, or modify it if necessary.
6. In the Account for GPS Receiver to connect GV-GIS Server section, type login ID and password created on GV-GIS for the GV-System.
7. In the Account for IP Device to connect GV-GIS Server section, select desired IP cameras and type their separate login IDs and passwords created on GV-GIS.
8. Click **OK**. The **Connection(s)** column on the GV-GIS Client window will display the total number of to-be-connected devices which includes one GV-System and the number of connected IP cameras.
9. To create connection to other GV-GIS stations, double-click # 2 to # 4 columns on the GV-GIS Client window and configure the connection information by following above steps.
10. To start connecting to GV-GIS, click the button. The GPS data of GV-System and connected IP devices will be sent to GV-GIS.

To connect to the GV-GIS, make sure the service on the GV-GIS is enabled; the **Login to GV-GIS** and **Starting Receiving GPS Data for GPS Receiver** functions on the GV-GIS Client window (Figure D-1) are enabled too.

E. Modifying Port Number for running GV-GIS on the same computer with GV-System

Since the GV-GIS and the WebCam Server of GV-System use the same HTTP port number of 80 to connect to the Web, it is required to modify the port number of either GV-GIS or WebCam Server if the two are run on the same computer. If not, you cannot access the Web interface of the GV-GIS.

To modify the HTTP port number of GV-GIS:

1. Click **Configure** from the menu bar and select **System Configure**.
2. In the **Network** section, change the default Listen Port of 80 to a different port number within the range of 1024 to 65535.
3. Click **OK**.